

# U.S.I. JOURNAL

(Established 1870)



## PRINCIPAL CONTENTS

United Nations Peace-keeping  
Forces

*Major-General Indar Jit Rikhye*

Integration of the Services

*Brigadier V.P. Naib*

Heart's Desire

*Lieut-Colonel E.A. Vas*

Nehru as a Writer

*A. Ranganathan*

The Stability of Thailand

*Major Edgar O'Ballance*

Motivation in Military  
Leadership

*Major General A.S. Naravane*

Lubrication in Cold Weather

*Lieut-Colonel K. K. Sharma*

Nanda Devi Expedition

*Major N. Kumar*

ADPS and a suggested appli-  
cation to Ordnance Service

*Colonel H. S. Bains. Vr. C*

OCTOBER-DECEMBER 1964

ALL RIGHTS  
RESERVED

RS. 3.00

PUBLISHED  
QUARTERLY

## UNITED SERVICE INSTITUTION OF INDIA

The United Service Institution of India was established in 1870 with the object of the "furtherance of interest and knowledge in the art, science and literature of the Defence Services." The Institution organises lectures, publishes a quarterly Journal, maintains a reference and lending library and reading room, and keeps pictures, medals, trophies and relics which form the nucleus of museum.

### Rules of Membership

1. All officers of the Defence Services and all gazetted officials shall be entitled to become members, without ballot, on payment of the entrance fee and subscription.

Other gentlemen may become members if proposed and seconded by a member of the Institution and approved by the Council. They will be entitled to all privileges of membership excepting voting.

2. Life members of the Institution shall be admitted on payment of Rs. 160/- which sum includes entrance fee.

3. Ordinary members of the Institution shall be admitted on payment of an entrance fee of Rs. 10/- on joining and an annual subscription of Rs. 10/- to be paid in advance.

The period of subscription commences on January 1.

An ex-member on rejoining the Institution will be charged a second entrance fee of Rs. 10/-.

4. Members receive the *Journal* of the Institution post free to any part of the world. Members in India may obtain books from the library; they are issued postage free, the borrower paying the return postage.

5. Government institutions and offices, military libraries, messes and clubs wishing to subscribe to the *Journal* shall pay Rs. 12/- per annum. Non-members shall pay Rs. 12/- per annum plus postage. Single copies of the *Journal* will be supplied to non-members at Rs. 3/- per copy, plus postage.

6. If member fails to pay his subscription for any year (commencing 1st January) by 1st June of the year, a registered notice shall be sent to him by the Secretary inviting his attention to the fact. If the subscription is not paid by 1st January following, his name shall be struck off the roll of members and, if the Executive Committee so decide, be posted in the hall of the Institution for six months, or until the subscription is paid.

7. An ordinary member wishing to resign at any time during a year in which one or more journals have been sent to him must pay his subscription in full for that year and notify his wish to resign before his name can be struck off the list of members.

8. Members who join the Institution on or after the 1st October and pay the entrance fee and annual subscription on joining, will not be charged a further subscription on the following 1st January, unless the journals for the current year have been supplied.

9. All communications should be addressed to the Secretary, United Service Institution of India, Kashmir House, New Delhi-11.



The  
**JOURNAL**  
of the  
**United Service Institution**  
of  
**India**

*Published by Authority of the Council*



(Established 1870)

Postal Address: KASHMIR HOUSE, KING GEORGE'S AVENUE, NEW DELHI-11  
Telephone No: 35828

VOL. LXXXXIV

OCTOBER—DECEMBER 1964

No. 397

**USI Journal** is published quarterly in April, July, October and January.  
**Subscription:** Rs. 12.00 per annum. **Single copy:** Rs. 3.00. Subscription should be sent to the Secretary. **It is supplied free to members of the Institution. Articles, Correspondence and Books for Review** should be sent to the editor. **Advertisement** enquiries concerning space should be sent to the Secretary.

# UNITED SERVICE INSTITUTION OF INDIA

## FOR

*The furtherance of interest and knowledge in the art, science  
and literature of the Defence Services*

## PATRON

THE PRESIDENT OF INDIA

## VICE-PATRONS

Governor of ANDHRA PRADESH  
Governor of ASSAM  
Governor of BIHAR  
Governor of MAHARASHTRA  
Governor of GUJARAT  
Governor of KERALA  
Governor of MADHYA PRADESH  
Governor of MADRAS

Governor of MYSORE  
Governor of ORISSA  
Governor of PUNJAB  
Governor of RAJASTHAN  
Governor of UTTAR PRADESH  
Governor of WEST BENGAL  
Sadar-i-Riyasat of JAMMU & KASHMIR

*The Defence Minister:* Shri Y. B. Chavan  
*Chief of the Army Staff:* General J. N. Chaudhuri  
*Chief of the Naval Staff:* Vice-Admiral B. S. Soman  
*Chief of the Air Staff:* Air Marshal Arjan Singh, DFC

## President

*Deputy Chief of the Naval Staff:* Rear Admiral S. M. Nanda, IN

## Vice-Presidents

*Deputy Chief of the Army Staff:* Lieut-General P. P. Kumaramangalam, DSO  
*Vice Chief of the Air Staff:* Air Vice-Marshal P. C. Lal, DFC

## Elected Members of Council

Major General R.N. Batra  
Major General P. O. Dunn  
Lieut-General Harbakhsh Singh, Vr. C.  
Lieut-General Kalwant Singh (Retd.)  
Lieut-General Moti Sagar  
Brigadier V.P. Naib

Brigadier R.N. Noronha, MC  
Major General D. K. Palit, V. C., FRGS  
Major General Rajinder Singh Paintal  
Air Vice-Marshal Ranjan Dutt, Vr. C.  
Rear Admiral B. A. Samson, IN  
Major General M. L. Thapan

## Representative Members

*Director of Military Training:* Major-General J. S. Aurora  
*Director of Naval Training:* Captain S.D. Kale, IN  
*Director of Training Air Hq.:* Air Cdre. J. C. Varma

## Ex-Officio Members

*Commandant, Defence Service Staff College:* Maj-Gen. D. Som Dutt  
*Secretary, Ministry of Defence:* Shri P. V. R. Rao, ICS  
*Financial Adviser, Ministry of Defence:* Shri M. K. Hariharan

## Executive Committee

Maj-Gen. J. S. Aurora  
Air Cdre. J. C. Varma

Shri H.C. Sarin, ICS

Captain S. D. Kale, IN  
Shri A.N. Joshi

**Secretary and Editor**  
Lieut-Colonel Pyara Lal

# CONTENTS

OCTOBER—DECEMBER 1964

EDITORIAL	...	347
UNITED NATIONS PEACE-KEEPING FORCES	Major General Indar Jit Rikhye	349
INTEGRATION OF THE SERVICES	Brigadier V. P. Naib	358
HEART'S DESIRE	Lieut.-Colonel E.A. Vas	373
NEHRU AS A WRITER	A. Ranganathan	385
THE STABILITY OF THAILAND	Major Edgar O'Ballance	390
MOTIVATION IN MILITARY LEADERSHIP	Major General A. S. Naravane	395
LUBRICATION IN COLD WEATHER	Lieut.-Colonel K. K. Sharma	404
NANDA DEVI EXPEDITION	Major N. Kumar	414
ADPS AND A SUGGESTED APPLICATION TO ORDNANCE SERVICE	Colonel H.S. Bains, Vr. C	422
BOOK REVIEWS	...	433

THE SPECTRUM OF STRATEGY (*E.J. Kingston McCloughry*), DEFENCE IN A CHANGING WORLD (*J. L. Moulton*), A DICTIONARY OF UNITED STATES MILITARY TERMS (*Public Affairs Press, Washington, 1963*), THE ARMS DEBATE (*Robert A. Levine*), IRASCIBLE GENIUS (*Maboth Moseley*), THE LONELY SEA AND THE SKY: AUTOBIOGRAPHY OF FRANCIS CHICHESTER, NICE TO HAVE YOU ABOARD (*Captain Harold Hopkins*), THE RESTLESS SKY (*Air Marshal C. E. Kay*), THE WESTERN FRONT, 1914-1918 (*John Terraine*), THE SOMME (*A. H. Farrar-Hockley*), RETURN TO SALONIKA (*Charles Packer*), ON THEIR SHOULDERS (*C. N. Barclay*), THE DESTRUCTION OF DRESDEN (*David Irving*), THE POWER OF SMALL STATES (*Annette Baker Fox*), NORWAY 1940 (*Bernard Ash*), GENERALS AT WAR (*Francis de Guingand*), THE MARCH ON DELHI (*A. J. Barker*), THE BATTLE FOR THE MEDITERRANEAN (*Donald Macintyre*), "THE EARLY BIRDS" (*Maj W Geoffrey Moore*), DESIGN FOR FLIGHT: THE KURT TANK STORY (*Heinz Conradis*), NEW DIMENSIONS IN FOREIGN POLICY (*Max Belloff*), COMMUNISM AND COLONIALISM (*Walter Kolurz*), BATTLES OF THE INDIAN MUTINY (*Michael Edwardes*).

CORRESPONDENCE	...	459
SECRETARY'S NOTES	...	460
ADDITIONS TO THE LIBRARY	...	461

## NOTE

The views expressed in this Journal are in no sense official and the opinions of contributors in their published articles are not necessarily those of the Council of the Institution.

## Quality tools from quality steel

In 1923, a new Indian industry was born when the manufacture of improved agricultural implements of steel was started at Jamshedpur. In 1925, The Tata Iron and Steel Company took over the Agrico factory, and, for the first time in India, diversified production to include essential implements, such as hammers, shovels, picks, beaters and crowbars.

For the past 40 years, Agrico has helped to provide the farmers on the field and workers engaged in the construction and maintenance of roads and railway tracks, bridges and dams with improved varieties of tools.

Agrico now produces annually 4 million pieces of implements, scientifically designed, and forged in one piece from high-grade Tata carbon steel. Strict supervision at every stage of manufacture ensures the high quality and durability that have made Agrico implements the first choice of users throughout the country.

### **TATA STEEL**



The Tata Iron and Steel Company Limited

JWTTN 2066 A



# The Journal of the United Service Institution of India

VOL. LXXXIV

OCTOBER-DECEMBER, 1964

No. 397

## EDITORIAL

### CHINA—NEED FOR REALISTIC RE-APPRAISAL

WHEN the civil war ended in China in 1949, the Chinese Communists had at their disposal some 3 million armed men. It was mainly a guerilla army. There was no Navy apart from a handful of small craft captured from the Chinese Nationalists. An Air Force had been in training in Manchuria, but no aircraft were used by the Communists even in the last stages of the war. During the last 16 years, however, China has not only built up a standing army of 2,260,000, composed of some 31 field armies, 115 infantry divisions, 4 armoured divisions and 2 air borne divisions, but also a Navy and an Air Force. Her Navy now consists of over 30 operational submarines, 12 destroyers, 20 frigates and a large number of ancillary vessels. Her Air Force has grown to be third largest in the world with 3,000 aircraft, of which 2,000 are reported to be fighters, 400 to 600 bombers and 200 to 300 transport planes. Besides, she has a 'programme of forming a militia of 120 million men and women. Another 180 million are to be trained with some conception of military organisation and discipline. At the same time the tremendous manpower resources of 700 million Chinese people are a potential force available to augment its military power. With the present increase of population at the rate of 2%, this number is likely to reach the 1,000 million mark by 1980.

The explosion in Sinkiang of a nuclear device has established beyond any doubt that the Chinese nuclear technology is considerably more advanced than it has generally been thought. This coupled with her conventional military strength renders China a formidable military antagonist.

Some China experts, however, still continue to argue that there are inherent limitations to her use of this great military machine—the lack of communications, transport, railways, oil and last but not least the food. It is dangerous thinking. It is dangerous to apply a conventional yard stick to assess the Chinese capabilities. The Chinese are a hard working and determined people. They are governed today by an aggressive and totalitarian regime, which has ambitions to be a great military power in the world. Likewise it is dangerous to under-rate Chinese technical capabilities. Possession of a nuclear bomb has given the Chinese a powerful weapon—a weapon both of military significance and political blackmail.

It has also given her self-confidence and prestige abroad. Already there are reports that China is ready for the second explosion.

The basic Chinese aim is to expand her power and influence in the world and particularly in the countries of South and South-East Asia. The Chinese communists continue to pay homage to the Imperial glory of the nation. Their expansionist plans cover parts of the Soviet Union, Mongolia, Korea, Thailand, Vietnam, Laos, Cambodia, Malaysia, Burma, the Himalayan Kingdoms of Nepal, Bhutan and Sikkim besides large chunks of Indian territory.

Towards achieving the above aims, the Chinese have not hesitated to employ every means available to them—fomentation of insurrection (as in Malaya,) direct military intervention (as in Korea) and supply of military aid (as in North Vietnam) or such indirect tactics as “trade and aid”, “exchange of cultural missions”, “peaceful coexistence”, “traditional friendship”, “anti-colonialism”, “anti-imperialism” and “praise for neutrality.” In short, persuasion, intimidation and subversion are always mixed to a varying degree to suit the requirements of the situation at any particular time.

We were one of the first to recognise Communist China. Persistently we pleaded her cause in the United Nations and acted as an “honest broker” to her introduction to the international world and particularly in the Afro-Asian community. There were responsible people in our country who felt that China will never attack us and yet when the time came, China did not hesitate to “stab us in the back.”

The basic aim of Chinese political and military strategy (Chinese political and military strategy cannot be separated) have been clearly stated in the writings of Mao Tse-tung. These need to be studied and fully understood. We can ignore these only at our own risk. Indeed, today we need to thoroughly investigate the political, economic and military implications of Chinese nuclear capabilities which may help our planners to solve the question of whether India should continue to lay stress only on developing her conventional warfare potential or should develop an independent nuclear deterrent.

Our thinking and research need to be carried out at both non-official and official levels. At non-official level, perhaps, there is need to set up an institute exclusively devoted to the study of Chinese affairs. At official level like-wise, there is an urgent requirement to organise a machinery at the highest level composed of senior Civil, Foreign affairs and Military experts to do forward thinking, research, planning and projection of our policies. If we do not wish to be caught “napping” again, then our policies should be based more on serious study and continuous evaluation than on pre-conception or surmise.

# UNITED NATIONS PEACE-KEEPING FORCES\*

BY MAJOR-GENERAL INDAR JIT RIKHYE  
(Military Adviser to the Secretary-General of the United Nations)

## INTRODUCTION

PEOPLE generally agree that some reliable system of ensuring world peace is essential. During recent months Member States have indicated a growing desire to strengthen United Nations peace-keeping ability. Plans submitted to the Disarmament Conference in Geneva provided for a peace-keeping machinery within the framework of the United Nations, but due to conflict of interests and the large number of nations involved, it has not been possible to complete the desirable process which would have the acceptance and the trust of all the people of the world.

The signatories to the United Nations Charter envisaged that the five great powers which were given the power of veto in the Security Council would continue to be responsible for maintaining peace along the lines already established in their successful alliance to victory in World War II. While the Charter provided a negotiation machinery under Chapter VI, the primary responsibility for maintaining peace was inscribed in Chapter VII. Korea proved to be the first and last example of enforcement action as envisaged by Chapter VII of the Charter. As long as the present political atmosphere prevails, it has become clear that international enforcement action by the United Nations to counter aggression and prevent it from widening into a global conflict, as originally envisaged, may never be required or be possible. Agreement between the five great powers is an essential requisite to this kind of action. Developments have followed a different course to what was originally envisaged.

In situations involving confrontation of interests between the two giant powers — USA and USSR, the United Nations has proved useful to the limit of the involvement agreed to by these two powers. The world primarily had to rely upon these two giants to resolve their differences. Thus in the situations that have confronted it, the United Nations is usually not in a position either to deal with an aggression arising from a great power conflict or fail to use military resources of the great powers directly in dealing with other breaches of peace. In these circumstances, Member States have worked towards preventing the great powers strictly from being projected onto the situation being dealt with or escalate into more serious developments.

The United Nations action in Korea led some to believe in the possibility of the classical pattern of collective action against aggression. It was soon realized that the situation was most unlikely to be re-

---

\*This article cannot be reproduced or used in part without the permission of the author.—Ed.

peated which led the General Assembly in 1950 to adopt the "Uniting for Peace" resolution which makes it possible to convene the General Assembly quickly so that it can act effectively in the event of a Security Council veto.

#### DEVELOPMENTS OF PEACE-KEEPING FUNCTIONS

THE developments of peace-keeping functions of the United Nations had been in two main fields. They are designed to prevent local crises from deteriorating into larger conflicts within the dangerous political and military environment of the present times. In the other instance, the United Nations provides a centre of negotiation for settlement of disputes which might be conducted through the various organs of the United Nations and/or through quiet diplomacy in which the Secretary-General personally or through a Special Representative is taking an increasingly important part. The latter function achieved significance under the skilful diplomacy of the late Secretary-General, Mr. Dag Hammarskjöld, and since his death in 1961, U Thant has brought to the office of the Secretary-General his years of political and diplomatic experience, an analytical mind and a philosophy of life devoted to the pursuit of peace.

The balance of terror established by the nuclear arsenals of the great powers has, for the present at any rate, created a safeguard against precipitating major confrontation and nuclear war. This has provided certain freedom of action to smaller and middle power nations and the United Nations Secretariat. In the early years the big powers were reluctant to delegate any of their authority to the Secretary-General. The desire to safeguard the world against a nuclear holocaust and the continued prevalent differences between the great powers have led to more favourable developments. Emergency situations generally arise from disputes between small states or follow withdrawal of colonial regimes, leaving a power vacuum behind. The Cuban crisis was, however, a case of confrontation between the U.S.A. and the Soviet Union and in this situation again the United Nations and its Secretary-General U Thant demonstrated their usefulness as an intermediary in averting confrontation and facilitated final disengagement.

Generated by the Korean experience in 1951, the Collective Measures Committee set by the General Assembly under the "Uniting for Peace" resolution published in its report a list of units earmarked by Member States for service with the United Nations in actions to counter aggressions. Developments, however, though somewhat confused, have been that United Nations peace-keeping forces are essentially peace and not fighting forces and they operate only with the consent of the parties directly concerned. Since 1950 the United Nations has dealt with a number of critical situations, different in nature and in emergency.



The initial use of small groups of military personnel by the United Nations for peace-keeping was evolved quite in an informal way. In Greece in 1947 and 1948 military attaches of the United Nations Commission proved valuable as an observer group. Since then, United Nations observer groups have performed useful functions in maintaining peace in many areas. In Kashmir, an observer group of military officers has been operating since 1948 and tensions have been kept low. In Palestine, an observer group was established in July 1948 and at one stage employed some 700 United Nations Observers to enforce the Armistice agreements between Israel and her Arab neighbours. This group is currently operating with less than 150 officers who deal with incidents as they arise and thus continue to prevent development of a major crisis in that area. In Lebanon in 1958 a group of some 120 and later about 600 military observers was established to check on allegations of infiltration from other countries. The United Nations was able to complete its task and withdraw the group in a few months after its inception. Following their independence, a small observer group was established to supervise the withdrawal of former colonial forces from Rwanda and Burundi. Similarly, another small observer group supervised the withdrawal of Dutch forces from West Irian (West New Guinea) and arranged collection of Indonesian infiltrators in the territory, thus paving the way for establishing United Nations temporary authority over the area in accordance with the terms of agreement between the Dutch and Indonesian Governments. Until September 1964, an observer group was deployed along the Saudi-Yemeni border as a basis for the implementation of the agreement of Saudi Arabia and the UAR to disengage from the affairs of Yemen. In the initial stage, the group included a ground reconnaissance unit to supplement individual observers and aerial reconnaissance.

Another positive development was the establishment of a peace-keeping force in Gaza following the Suez crisis in 1956. UNEF (United Nations Emergency Force) was created when two great powers were already involved and there were ominous threats from a third. The resolution establishing the force was sponsored by Mr. Lester Pearson of Canada and vigorously implemented by the late Mr. Dag Hammarskjöld. The primary object of the force was to allow the powers involved to withdraw peaceably from the area of conflict. UNEF was then deployed in the positions it has occupied ever since—along the Armistice Demarcation Line between Gaza and Israel and along the International Frontier in the Sinai.

UNEF was essentially not a force designed actively to fight against aggression. It was constituted under General Assembly action and was required to be deployed on both sides of the Armistice Demarcation Line and the frontier. Agreement could, however, only be reached to deploy it on the Egyptian side with the explicit consent of the Egyptian Govern-

ment and after the parties involved had agreed to a ceasefire. It permitted those involved to disengage themselves without further disturbance. Thus a most dangerous crisis was eliminated. The presence of UNEF in its present positions has proved an effective insurance against resumption of trouble. With exception of some incidents of very minor nature, peace prevails either side of the line and the Gaza strip, which used to be a major trouble spot, is now peaceful and prosperous. UNEF has indeed proved a success in international co-operation in the field of peace-keeping. It consisted at one time of troops from ten countries.

In July 1960 in the Congo, the United Nations was to face its greatest challenge, which had some very fundamental results. It has also involved great sacrifices from its staff and personnel, including the extreme sacrifice of its Secretary-General—Mr. Dag Hammarskjöld. The main facts of the Congo imbroglio are sufficiently known, though unfortunately, the situation in the Congo and the United Nations involvement are often portrayed in a very misleading manner. Harassed by mutiny, lawlessness and the collapse of public order and services from within, and afflicted by foreign military intervention as well as by ominous threats of other forms of interference from without, the new Government of the Congo appealed to the United Nations for help. The Security Council committed the Organization to respond to this appeal and thus made the Organization not only guarantor of law and order and the protector of the Congo against external interference from any source, but also the adviser and helper of a newly independent state which had virtually no preparation for its independence. By filling, in the space of a few hours, the very dangerous vacuum which existed in the Congo, the urgent danger of a confrontation of the great powers in the heart of Africa was avoided and the territorial integrity of the Congo preserved. U Thant said recently that by this action of the UN the new leaders of the Congo have been given at least a short breathing spell in which to find their feet. He added that despite its shortcomings, which must be judged in the light of the fearsome complexity of the problem, the United Nations Operation in the Congo is a most promising and encouraging experiment in international responsibility and action.

The blue helmets became a symbol of law and order and world authority throughout the Congo. The United Nations Force has provided protection to every Congolese public figure at one time or another, and it has provided security to every group—Congolese and non-Congolese. ONUC, as the military and civilian operation in the Congo, is called after the French initials of the operation (Operation des Nations Unies au Congo). has been a gigantic experiment not only in international co-operation, but in its role to support the security forces of a country in the maintenance of law and order. At one time, over twenty countries were represented in the Force.

The establishment of the United Nations Security Force (UNSF) in West Irian (West New Guinea) was a task much smaller in scale and complexity than both UNEF and ONUC and also different in character. The administration of this territory was entrusted to the United Nations Temporary Authority (UNTEA) after withdrawal of the Dutch administration, and the role of UNSF was to be the main support for the forces of law and order in the interim period before the administration was taken over by Indonesia. It is to the great credit of UNSF, that not a single serious incident occurred during the period of United Nations administration.

The United Nations is currently involved in the Cyprus crisis. When fighting broke out between the two main communities on the Island in December 1963, the Security Council called upon the Secretary-General to observe developments in Cyprus, and early in January 1964, he appointed General Prem Singh Gyani of India as his Observer. It became apparent that a United Nations peace-keeping operation of some sort might be needed in Cyprus and for the first time, therefore, it was possible to make some preparation in anticipation. On March 4, 1964, the Security Council entrusted the Secretary-General with the responsibility of contributing to the restoration of normal conditions in Cyprus and authorised him to establish a force. The emergency of the situation was not a matter of major concern, primarily due to the fact that the United Kingdom had in operation in Cyprus, under the Treaty of Guarantee, a force of about 7000 officers and men, which was capable of holding the lid down until the United Nations troops could take over.

On 27th March, General Gyani was appointed Commander and assumed operational responsibility. Within a month with arrival of other national contingents, the force assumed its international character. The United Nations Force in Cyprus (UNFICYP) has had its share of difficult and dangerous situations and has met various emergencies squarely. It has done much to return life to normal and to create confidence in the civilian population as to its neutrality and ability to restore law and order. Provided the current encouraging trends continue, it should be possible to obtain conditions which will enable peaceful negotiations between the two communities.

UNFICYP's mandate has been determined by the initial Security Council resolution for a period of three months at a time. The Force is about to complete three such periods towards the end of this year. In order to avoid any involvement in the current big financial issue concerning United Nations peace-keeping, the Security Council introduced a novel system of financing this operation. Financing has been on a voluntary basis and therefore availability of funds also conditions that such an arrangement cannot be considered ideal from the point of view of those who have to carry such a heavy burden of responsibility.

The United Nations has by now considerable experience in peace-keeping operations and a variety of military observer and truce supervisory undertakings. They have all been different in nature although they have shared certain common characteristics, as were first described in a report of the Secretary-General of the United Nations, Dag Hammarskjöld, on "Concluding Observations and Principles—United Nations Emergency Force", October 9, 1958. On the basis of further experience acquired in the Congo and West New Guinea, in an address to the Harvard Alumni Association delivered in Cambridge, Mass., on June 13, 1963, Secretary-General U Thant said:

"... All three were improvised and called into the field at very short notice; all three were severely limited in their right to use force; all three were designed solely for the maintenance of peace and not for fighting in the military sense; all three were recruited from the small powers and with special reference to their acceptability in the area in which they were to serve; all three operated with the express consent and co-operation of the states or territories where they were stationed; and all three were under the direction and control of the Secretary-General, acting on behalf of the organs of the United Nations."

Recent experience in Cyprus has only confirmed that most of these facts are still commonplace.

#### INHERENT WEAKNESSES OF UNITED NATIONS FORCE

Judging by standards of normal national military establishments, United Nations forces have suffered from certain inherent weaknesses. The improvised nature of their establishment caused shortcomings. Personnel in units recruited at short notice do not always fit in with requirements. The units are sometimes hastily prepared and assembled, and suffer inevitable shortcomings. Commanders and staff have met for the first time and have had no previous experience with the units. Logistic arrangements had to be made hurriedly and supply pipe lines established with heavy dependence for transportation on Member States. There were initial difficulties with signal communications until UN-owned equipment was deployed. Wide differences in training and tradition, in weapons and equipment, in language and staff experience, in pay and allowances have always been present. There have been problems of discipline and morale and last, but by no means least, the difficulty in command and staff work where every decision has serious political implications. Member States can, however, take pride in the fact that these difficulties which at first appear insurmountable have been offset by their enthusiastic co-operation and by the pioneering spirit of their officers and men who make up their national contingents within the United Nations force.

#### WAY OUT—SOME SUGGESTIONS

Desire to improve and strengthen these operations is hampered by disagreement between the great powers on control, direction and financing



of peace-keeping operations. Meanwhile, in an effort to meet the growing wish to improve these operations on the part of many states who desire to participate in future United Nations peace-keeping missions, the International Conference on United Nations Security Forces as a Means to Promoting Peace held in Oslo in February 1964 and the United Nations Peace-keeping Working Level Meeting held in Ottawa on 2-6 November 1964 have provided useful forum for an exchange of views and for pooling of knowledge on the technical aspects of these operations.

The late Secretary-General, Mr. Dag Hammarskjöld, had recommended advance preparation in his Annual Report to the General Assembly of 31 August 1960. He said:

"It is an entirely different matter if governments in a position and willing to do so, would maintain a state of preparedness so as to be able to meet possible demands from the United Nations. And it is also an entirely different matter for the Organization itself to have a state of preparedness with considerable flexibility and in the hands of a qualified staff which quickly and smoothly can adjust their plans to new situations and assist the Secretary-General in the crucially important first stages of the execution of a decision by the main organs to set up a United Nations force, whatever its type or task."

As long as the Secretary-General of the United Nations continues to be made responsible for the conduct of these operations, he must be provided with suitable assistance. In view of the existing political difficulties, the Military Staff Committee, established by the Charter to be primarily responsible for providing military expertise, has been unable to function. In the absence of such advice, the Secretary-General has been obliged to include military expertise within his executive office, which has proved to be a useful link between the Secretary-General and peace-keeping forces.

Canada, amongst a few other countries, had already taken the initiative of placing troops for service with the United Nations on a standby basis. Following the Congo experience, and others which had preceded it, Scandinavian countries have planned in a common venture to establish a standby force consisting of personnel and units designed to meet diverse requirements. The example of these countries is now being followed by several others who have either already made firm arrangements for standby units or are in the process of doing so. These pragmatic developments should meet further requirements on the basis of past experience.

From experience gained, sufficient information as to the capability of acceptable countries in their contribution to the United Nations peace-keeping operation can be judged. A careful examination of this leads to deciding type of personnel, units, equipment and ordnance that should be requested from Member States. A flexible bloc system has been developed. When an observer group is to be established, an organization

for a minimum observer unit is decided, including its equipment and other logistic requirements. The overall organization is then evolved on this bloc system based on consideration of basic factors like the nature of terrain and essential services available within the area of operations. A headquarters is added again on a bloc pattern, and the overall logistic and administrative support provided. When it is decided to establish a force, a quick study of tasks and factors involved determines its organization. A bloc pattern for every 1,000 men helps in planning and arranging a detailed organization.

It is obvious that improvised peace-keeping forces are not the best and it would be ideal to have a permanent standing force.

In his speech to Harvard Alumni Association on June 13, 1963, the Secretary-General of the United Nations, U Thant, stated that a UN Force would not be practical at the present time even though he admits that the world should eventually have an international police force. The Secretary-General also said:

"I believe that we need a number of parallel developments before we can evolve such an institution. We have to go further along the road of codification and acceptance of a workable body of international law. We have to develop a more sophisticated public opinion in the world, which can accept the transition from pre-dominantly national thinking to international thinking.

"We shall have to develop a deeper faith in international institutions as such, and a greater confidence in the possibility of a United Nations civil service whose international loyalty and objectivity are generally accepted and above suspicion. We shall have to improve the method of financing international organization. Until these conditions are met, a permanent United Nations force may not be a practical proposition."

It is, however, noteworthy that both disarmament plans submitted by the U.S.A. and USSR include a progressive establishment of a UN peace-keeping force with the implementation of disarmament. While a degree of success has been achieved in narrowing the gap between the views of the two power blocs, more time and effort is needed to reach a stage when it would be practical to establish a permanent peace-keeping force. Until then, the world organization has only the choice of following the pattern of establishing United Nations peace-keeping operations along the lines already set on the basis of past experience.

### CONCLUSION

Establishing a UN Force for an operation is not a simple proposition. Once the political decision has been taken, the emergency of the situation will set the pace for the action. Until now, improvisation has been the only resort for organizing a Force when urgency is impera-

tive. Some preparation can only be done in situations such as in Cyprus, when circumstances allowed some time between the resolution that created the Force and the moment it becomes operational. The peace-keeping machinery is not equipped with the means for planning in advance, thus permitting smooth launching of the operation.

Most of the shortcomings would be eliminated by the establishment of a permanent UN Force. However, political difficulties place this project too far away in the future. In the meantime it is necessary to use ingenuity together with the accumulated experience to produce a mechanism through which the organization would be able to act when called upon to maintain peace.

Peace-keeping operations have proved useful and to a great extent, successful. This success depends largely on the operational efficiency of the Force. Quick results can only be achieved if the Force is capable of reaching peak efficiency shortly after its inception. To assemble together officers and units of many countries into an effective peace-keeping force demands previous planning and a great amount of preparation which can only be done if the goodwill and efforts of each country are cemented together by a coordinating element. Nineteen years of experience have taught us what is needed. Exchanges of ideas and knowledge such as the Oslo and Ottawa Conferences have outlined problems requiring attention. It is now up to all Member States to produce the proper tools for the maintenance of peace.

---

*With all the changes in our environment—with all the frightening developments in weapons of war—there remains one self-evident truth. Man himself has not changed. Fundamentally it is man who determines his own course. Man sets his own values. Man creates machines to do his work for him. Man decides what he is willing to pay for material goods—and for abstract things like freedom.*

—DAVID M. SHOUP  
General

# INTEGRATION OF THE SERVICES

BY BRIGADIER V. P. NAIB

*"If the trumpet give an uncertain sound  
who shall prepare himself to the battle?"*

New Testament

## INTRODUCTION

THE statement that "Modern Defence demands the closest degree of co-operation and integration of the three Services", is today a universally accepted truism. The real problem has, however, been the determination of practical steps to implement this principle, particularly by democracies. It was during World War II that the problem of integration of the Services was first tackled with sufficient urgency and purposefulness, both at national and international levels, amongst the Allies. After the War, the difficult process of welding the land, naval and air forces of different countries into integrated collective security forces is being carried out with varying degrees of success by organisations like the NATO, the SEATO and the CENTO. But the problem has largely become national on account of lack of complete identity of interests at stake amongst different countries as well as the continuing uncertainty of international climate. Consequently, every country appears to be trying to solve this problem according to its own genius, with increasing emphasis on the national rather than the collective or international military organisation.

While the terms of reference of this essay rightly emphasise the need for the closest degree of cooperation and integration of the three Services, they appear subsequently to restrict the scope of discussion towards determining practical steps for the achievement of "cooperation and mutual understanding" between them. This can be achieved without bringing about integration in the full sense of the term, which includes both the organisational and functional aspects of the three Services. Yet, without the closest possible integration, it is difficult to see how the complex military organism can be expected to adapt itself to the speed and uncertainties of modern war. It is, therefore, necessary to examine the scope of integration, generally as it is being attempted in other countries and then with particular reference to India. Having determined the scope of integration, we will be in a better position to suggest practical steps to achieve "the closest possible cooperation, coordination and mutual understanding."

## SCOPE OF INTEGRATION

THE aim of integration of the Services is to enable a nation's military organism to achieve operational readiness speedily and meet any threat to national security with maximum flexibility and economy of force.



Integration of the Services also enables the nation to exercise maximum economy in the application of its resources for the defence effort. These are the twin objects, integration of the Services is intended to achieve. How they are achieved in any country is dependent upon numerous factors like the nature of government, resources of the country and the position of the Services *inter se* and vis-a-vis other organs of the state.

### Trends in other Countries

The process of achieving integration is probably much simpler in totalitarian regimes than in democracies because, the former are not compelled to contend with the pressure of public opinion or with the opinions and sentiments of the Services. In Communist regimes, all organs of public and private life including the Armed Forces are subordinated to the pursuit of Communist policy, national and international. Communist strategists are intensely practical realists, working with clear aims untarnished by the effects of amiable sentiments and humanitarian ideals. They are neither troubled by public opinion, if any, nor influenced by the feelings and sentiments of the Services, when they formulate their strategic aims and determine the means to achieve those aims. Such singleness of purpose and ruthlessness of method no doubt have obvious advantages, but democracies cannot adopt such methods as long as they subscribe to the democratic way of life, which holds the liberty of the individual as sacrosanct and inviolable.

In the two great democracies of the UK and the USA, the Services have historic origins and have evolved as distinct organic institutions with special characteristics, great traditions and fierce loyalties. It is common knowledge how attempts towards integration of the Services in those two countries have generated acrimonious controversies in public and in private, how bitterly the individual Services have resented any inroads into their close preserves and contested any surrender of their privileges or alteration of their long established practices. No doubt, the Services are led by patriotic men, who are not quarrelsome, inflexible and self-centred individuals. Each Service is committed by national policy to its role and tasks laid down by the State and is individually responsible for its state of operational readiness. Yet, in spite of attempts by those governments to secure coordination and integration, and notwithstanding the achievement of some success in this direction, mutual suspicion and the element of competition amongst the Services are such that separate Service empires continue to thrive to the detriment of overall larger national interests.

In his address to the Royal United Services Institution on "Organisation for War in Modern Times," Lord Montgomery was highly critical of the shortcomings of the present system and said:

"In basic matters there is continual dis-agreement between the three Services of a nation, and in some cases there is definite friction. There is hidden suspicion at all levels between the members of all Services, in varying degrees. There is continual tendency for duplication of administrative services and facilities in all the fighting Services. There is wastage of personnel through the maintenance of obsolete or obsolescent functions in all the Services. When some functions become obsolescent, vested interests and emotional attachments go into action to prevent it being abolished, and Service propaganda machines are put into top gear."(A)

In his opinion, progressive integration should finally lead to the abolition of the three Services as distinct entities and their reorganisation into one Fighting Service under a single War Department. Even his famous "Maritime Strategy" was designed to secure inter-Service co-operation and eventually turn over to a single Fighting Service.

The ideal of a single Fighting Service is no doubt very attractive and appears to provide all the answers to the grave problems of modern defence. But there is much to be urged against it. Tradition is very valuable in a fighting Service as long as human nature remains what it is and its sense of values does not undergo radical transformation. To scrap all the three Services in favour of a single Fighting Service is to scrap tradition, though Lord Montgomery does not seem to attach much importance to it when he says, "Tradition will be put forward as a reason. Tradition is a wonderful thing, but it must not become a bar to progress" (A).

Unless we are convinced that the change urged by radicalists is really a progress and not a pet scheme of their own, whose only recommendation is that it is a change, we would be ill-advised to accept such a radical change. If we believe that tradition sustains morale and promotes esprit-de-corps, then tradition must have realistic associations that the soldier, sailor or airman can easily comprehend and not a mere abstraction. Admittedly the present system has its evils and shortcomings and obviously these must be remedied. But this cannot be done either by putting units of one Service under officers of another as advocated by Lord Montgomery or by creating a single Service to which all belong.

Even if we ignore considerations of tradition and sentiment, no case can be made out for complete organisational integration on the ground of administrative efficiency or training or even operational employment. The three Service establishments are already quite large enough to be efficiently administered by their own Service officers. Administrative merger may well result in greater waste and less efficiency than we have at present. As to training, peculiar to each Service, the technical skills to be acquired are so much different from one Service to another and are becoming so

---

"A" "Organisation for War in Modern Times" by Field Marshal Lord Montgomery (RUSI Nov. '55)

increasingly specialised that no centralised direction is practicable. Operationally, the roles of the three Services differ naturally and widely by virtue of the fact that they fight in different elements. This obvious but frequently overlooked fact alone rules out complete organisational integration of the three Services. At the same time, in view of the complexity of modern war and in the ultimate interests of national security as also economy, there is a strong case for functional integration and limited organisational integration.

Organisationally, it would be economical to form certain common services like the supply and transport, engineering works, medical and to a certain extent signal communications, as contemplated by the White Paper issued by the British Government in July 1958(B). On the staff side again, there is a very strong case for the establishment of a Joint Staff Organisation to deal with planning, operations and intelligence as well as numerous inter-Service problems.

The need for the closest possible integration of the three Services has been accepted by the UK and the USA and numerous statutory reforms have been ushered in to secure such integration. These are in conformity with the need, as recognised by leading military thinkers, for a military organisation which is closely integrated and tightly gripped at the top capable of adapting itself successfully to the required speed of modern life(A). The recent reorganisation of the defence organisms in the UK and the USA secures in those countries a good measure of integration at the highest echelon of command, but the development of an integrated Joint Defence Staff Organisation appears to have been hindered by a tendency to tackle problems of integration by the establishment of numerous inter-Service Committees. The trend, however, has been towards unification of the Services rather than their merger into a single Fighting Service. "The purpose is not to revolutionise the organisation of the Forces but rather to secure greater cooperation and economy. The identity and loyalty of the three Services must be retained, but the present high degree of cooperation will necessarily be increased."(B)

#### Definition of the Scope

Having regard to the conditions obtaining in India and the foregoing discussion on modern trends towards integration of the Services, we can draw the following useful deductions to define the scope of integration:—

- (a) There must be full integration of the Services at the highest echelon of military command in the nation.
- (b) Command integration should extend to all those subordinate echelons of Command, where training or operations require more

---

"B" "Statement of Defence" Brassey's Annual 1962 (pp. 275-288).

than one Service to cooperate. This has been achieved in our country to some extent.

- (c) The emphasis of integration should be mainly on the functional aspect for the teeth elements of the Services. For the support echelons of the Services, this may extend to the organisational aspect as well.
- (d) In order to enable the High Command to function smoothly and effectively, a Joint Staff Organisation must be established.
- (e) In the interests of efficiency and economy both of money and man-power, administrative and support echelons of the three Services must be rationalised wherever possible.

## INTEGRATION OF THE SERVICES IN INDIA

### Nature of the Problem

In India, the difficult problem of integration of the Services is further complicated by numerous circumstances peculiar to this country. No doubt we have inherited from the British a fairly good start in our Army, Navy and Air Force. But we have had very little time since Independence to develop that degree of close nexus and understanding between civil and military institutions and *inter se* amongst the latter, which obtain in the UK and the USA as a result of years of experience, trial and error. We have been further handicapped by series of emergencies our Armed Forces have been and continue to be confronted with for the past fifteen years. And lastly, the limitations of our economic and industrial resources are so great that for the Services, it is a matter of fighting for the distribution of shortages rather than meeting demands for their legitimate needs. The present emergency has, however, brought into sharper focus than ever before, the need for correctly balancing the strength of our Armed Forces and their close integration in the interests of national security.

Whenever human institutions are transplanted in alien soil, unless they take root and grow up in freedom and strength, the good is apt to wither away leaving undesirable elements sapping the energy of those institutions. The decision as to what to reject and what to conserve needs the most impersonal analysis in the context of our national security. The problem of integration of the Services in our country must, therefore, be tackled with a great deal of circumspection, imagination and sympathy.

### Present State of Integration

So far, our efforts to achieve cooperation and integration of the Services have been rather limited. This has been largely confined to instructional establishments like the Defence Services Staff College and the National Defence College, where officers from the three Services are acquainted with the functions, capabilities and limitations of each individual Service as well



as the general technique of combined operations. A certain amount of functional integration has also been achieved by officers of the three Services working together at higher headquarters on joint planning and during combined exercises, particularly those of the Army and the Air Force.

Goa operations brought together for the first time since Independence, the Army, the Navy and the Air Force to work jointly in furtherance of a common aim. Many lessons have no doubt been learnt, but the nature, scope and duration of the campaign were such that their value in the strictly military sense as the basis for evolving procedures for operational integration of the Services was rather limited. One of the biggest lessons of this operation was probably the realisation that we have not so far made adequate efforts towards bringing into being, during peace, suitable organisations and procedures for the integration of the Services during war. The recent emergency has further emphasised the vital need for the closest degree of cooperation and integration, particularly between the Army and the Air Force.

Much valuable work has been carried out at various levels to achieve cooperation and integration between the three Services. For instance, at the Defence Service Staff College, valuable work has been carried out to evolve some measure of uniformity in staff procedures and military terms. Again, at various formation headquarters in the Army, where Air Force components are integrated, officers from these two Services have always worked as a team with a will to get on with the job as is evidenced by the fine results achieved. Difficulties have invariably been smoothed over by a spirit of cooperation, understanding and sympathy as well as selfless devotion to duty. Neither the will nor the effort is lacking amongst Service officers to cooperate with one another. What is, however, lacking is adequate centralised direction and coordination to canalise this will and effort into constructive channels so that functionally the three Services are always "on net".

From the foregoing discussion, it is obvious that the first prerequisite towards achieving integration of the Services is the reorganisation of our defence structure at the top. As Field Marshal Lord Montgomery has remarked: "Whatever is done must begin at the top. If the organisation there is right, progress will be possible. If the organisation at the top is faulty, there will be no progress."(A).

### **Higher Defence Reorganisation**

The mass of literature published on the subject of higher defence organisation ever since the beginning of World War II and the recent higher defence reorganisation in the USA and the UK, as well as our own experiences during the Goa operation as also the recent clash with the Chinese, are eloquent pointers to the need for similar reorganisation in

this country. Considerable material on this subject has also been published in the USI Journal, of which the Gold Medal Essay of 1959 sets out certain recommendations for Higher Defence Reorganisation (C). Although higher defence control at governmental level is beyond the scope of this essay, certain recommendations made in the essay under reference in regard to the integration of Services are worthy of examination.

### **Reorganisation of Chiefs of Staff Committee**

The highest inter-Service and purely professional body we have at present is the Chiefs of Staff Committee, whose functions at present appear to be advisory with no powers of decision or executive authority on inter-Service matters. Constituted as at present, the Chiefs of Staff Committee cannot be expected to provide that degree of centralised direction and co-ordination which are necessary for integration of the Services. It is very much a democratic institution fitting into the framework of parliamentary democracy with all the weaknesses and disadvantages inherent in such a body. Therefore, a strong case exists for reconstituting the Chiefs of Staff Committee on the pattern in the UK, with the Chief of Defence Staff presiding over the Chiefs of Staff Committee comprising the three Service Chiefs and possibly a Deputy Chief of Defence Staff. According to the British White Paper of 1958, the new appointment of the Chief of Defence Staff is designed to secure the closest inter-Service integration. Unless such reorganisation is undertaken by us speedily without waiting for the imminence of disaster to act as a catalyser, the Services may continue to pull in different directions and we may be compelled to accept the risk of the nation going down democratically.

In addition to his responsibilities towards the Defence Minister and the Government as the principal military adviser during peace and war, the Chief of Defence Staff as the highest coordinator of all inter-Service activities must be conferred executive authority to give decisions on all inter-Service questions, which do not require sanction by the Defence Minister or the Government by reason of their exceeding financial limits or their implications on national defence policy. On operational matters, the Chief of Defence Staff should issue in his name operation orders and instructions affecting all the three Services.

### **Joint Defence Staff**

As is the practice at present both in the UK and our country, establishment of committees by drawing upon staff officers from different Services is not of much use without centralised direction and coordination, which can only be provided by the appointment of the Chief of Defence Staff assisted by an integrated Joint Defence Staff Organisation. This is on the

---

"C" "Gold Medal Essay, 1959" USI Journal Oct-Dec. 1960.

analogy of the famous German General Staff and, to a certain extent, the French Joint Staff Organisation under their Chief of the Defence General Staff. This Organisation would draw its officers from the three Services, specially selected for their professional ability, integrity and soldierly devotion to duty. A very important criterion of selection of officers would be their successful tenure in command of troops without which they cannot bring to bear on their tasks, the necessary realism and power of judgment. In time, this Organisation would provide, for higher command and staffs of field formations, officers with adequate inter-Service experience and breadth of vision so necessary for modern war. With this end in view, it would be profitable to introduce officers to joint Service problems earlier than at present by increasing the amount of joint Service training not only at instructional establishments but also laying greater emphasis on joint Service exercises, lectures and discussions.

In the U.K. according to the Statement of Defence 1958, the requirement of inter-Service coordination, formerly met by the Land/Air Warfare Committee and the Amphibious Warfare Headquarters, will now be dealt with by a new Joint Service Staff in the Ministry of Defence under a senior officer as Director. This again serves a committee comprising representatives of the Naval, General, Air and Defence staffs under the chairmanship of the Deputy Chief of the Defence Staff, responsible to the Chiefs of Staff. This new organisation will be charged with advising the Chiefs of Staff on all aspects of joint Service operations including training. In addition to Joint Service Staff numerous inter-Service committees have been established under the Ministry of Defence to examine the integration of administrative elements of the three Services.

Apparently, the cherished image of a centrally controlled defence establishment as originally visualised by Mr. Duncan Sandys has not yet materialised in practice, due to the rigid infra-structures of the Service hierarchies. Lord Mountbatten has recently put forward for government approval his new scheme, which does not go as far as complete integration but stops just short of it. The emphasis appears to be on functional integration but caters for limited organisational integration of the administrative and support echelons, as suggested in this Paper (D). Under the circumstances obtaining in India, we should profit by the experience of other countries and devise our Joint Defence Staff Organisation in such a way that it would act as the pivot of all inter-Service activities and perform the following vital functions:—

- (a) Assist the Chief of Defence Staff in the unification of all the three Services within a single command, so that the "military arm" is always capable of taking sound decisions speedily and acting upon those decisions with vigour.

---

"D" "Lord Mountbatten's Take-over Bid" from the Times, London, republished in 29 Apr 63 issue of The Statesman, India.





Once the principle and broad functions of the organisation are accepted details can be worked out easily. The various directorates are self-explanatory and in the light of experience more branches can be incorporated. It will be noticed that these directorates will take over the bulk of their counterparts in the three Services and the Ministry of Defence, thus ensuring not only centralised direction and coordination but prevention of duplication and waste.

### Psychological integration

Unlike the conditions of service of other ranks in many countries, there is considerable disparity in this country between the conditions of service of other ranks in the Army, the Navy and the Air Force. This extends to all spheres of their activity but the most important are the pay, allowances, dress and rations, which tend to operate the psychological integration of the three Services. These are in fact the biggest impediments against organisational integration of the Services and interchangeability of personnel in some of the support echelons of the Services, which do permit such interchangeability on account of functional similarities. At officer level, however, the disparity is mainly in dress and other customs and habits peculiar to each Service. The conditions of service amongst Service personnel in many of the major powers do not show any wide disparity except for allowances incidental to the nature and hazards peculiar to each Service. Even in respect of dress, uniforms and badges of rank for the Army and Air Force in countries like the USA, Germany, Russia, and even China are similar if not identical.

In order to promote a sense of solidarity and esprit de corps amongst all ranks of the three Services, the present disparities must be progressively eliminated and more uniformity in respect of dress and other external attributes, at least for the Army and the Air Force, must be gradually promoted. It is a big problem and is bound to encounter considerable difficulties, but sooner or later it must be tackled and the sooner the better. The present emergency may be urged as an argument against such measures, but past experience shows that radical changes have a better chance of being put through during an emergency than during normalcy. Some suggestions that could be progressively implemented are given below:

- (a) As a first step, the working dress of all ranks of the Army and the Air Force should be made similar; this may be either olive green or khaki, preferably the latter as it is smarter and more durable.
- (b) The nomenclature and badges of rank for the Army and the Air Force officers should be the same for officers of these two Services as in the USA. This should be followed up with uniformity in mess and ceremonial dress as well.
- (c) New uniform scale of rations applicable to all the three Services should be worked out for issue.

- (d) Drill and ceremonial guards must be made uniform for all the Services.
- (e) Replace the existing Army, Navy and Air Force Acts by an Armed Forces Act applicable to all the three Services.

Although in some matters like dress, the Navy on account of its special service conditions may be compelled to continue as at present, every possible step must be taken to make all ranks feel that they belong to one great brotherhood in arms. The enactment of an Armed Forces Act, as suggested above to replace the present separate Acts, would probably go a long way in achieving psychological integration of the Services. Such a measure would generate the very desirable feeling amongst the soldier, sailor and airman that they are subject to one code of discipline, which they must all honour as members of the Armed Forces irrespective of their individual affiliations to one Service or the other. After all, a careful scrutiny of the current Acts shows that the points of difference between them are very few. These relate only to definitions of certain terms at the beginning of the Acts, a few specific offences peculiar to the nature of the particular Service and the absence in the other two Acts of the provision as to the powers of the Commanding Officer in the Army to hold Summary Courts Martial.

#### INTEGRATION OF ADMINISTRATIVE AND SUPPORT ECHELONS

Due to the fact that the teeth elements of the three Services have separate tasks, weapon systems and organisations, their administrative and support echelons have also been operating separately. This has naturally led to their developing on different lines although functionally they are similar. In spite of this, similarities outweigh differences and there is a strong case for rationalisation of support echelons in the interests of efficiency and economy of money, manpower and material. As already brought out while discussing the scope of integration, the support echelons of the three Services lend themselves to a considerable degree of organisational integration. As, however, no single method of integration would be applicable in all cases, each one of them should be examined separately for rationalisation and integration. Even before organisational integration of administrative and support echelons of the three Services is attempted, a start should be made by bringing about some degree of standardisation in equipment, terminology and procedures, whose diversity at present operates as a big impediment against integration.

#### Military Engineering and Medical Services

These two are considered together because, in the context of inter-Service coordination, they have many similarities. In the case of the Medical Service, although each Service has its own cadre of medical per-

sonnel, there is integration at the top with interchangeability of medical officers between the three Services. In the interests of complete integration, this interchangeability should be extended to all levels.

The ill-conceived experiment dividing the Military Engineering Service into separate Army, Navy, and Air Force components under their respective Quarter Masters General or equivalent, has fortunately come to an end. At one time, on the analogy of the Medical Service, there was a move to make military personnel of the MES components of the three Services wear the uniform of the Service concerned! We have now reverted to the old system under which all works services for the Army, the Navy and the Air Force are undertaken by the MES controlled by the Engineer-in-Chief through the Director of Works. That the old system works more efficiently, economically and smoothly than the experimental measure, further strengthens the case for integration of support echelons of the three Services.

### Signals

There is good scope for integration of the Signals set up of the three Services. Modern signal communications technology is so advanced and its equipment is increasingly becoming so specialised, that the pooling of signal resources and technical know-how of the three Services can lead to much better efficiency and economy. Such a step will also pave the way for achieving uniformity in signal procedures and techniques, as well as equipment, so that an integrated Corps of Signals will enable inter-service or joint commands at various levels to function smoothly and efficiently. For this purpose, integration of signals organisation of the three Services should start from the top, as in the case of Military Engineering and Medical Services, with a Director General-in-Chief of Signals directing and co-ordinating the activities of the Signals Directorates or equivalent of the three Services.

As a first step towards integration, the static communications net work of the three Services should be integrated. At present, Air Formation Signal units are responsible for providing land-line communications upto the signal centres operated by the Air Force. The Army responsibility so far, is only for construction and maintenance, while operation is the responsibility of the Air Force. It is suggested that the personnel for operating static communications net work should be drawn from all the three Services and they should work for a period of two to three years in the static communications net work, before reverting back to their parent Service. This would necessitate evolution of a common signals procedure, which would enable signal organisations of the three Services to work on an interchangeable basis both in respect of personnel and equipment. It is appreciated that beyond the static terminals, each Service would employ

its own signals personnel for operational work which is bound to differ from Service to Service on account of conditions and nature of service as well as speed of operations. The other alternative would be for the Army Corps of Signals to take over the static communications net work for all purposes and work it on the agency system. Of the two alternatives suggested above, operating the net work by personnel drawn from all the three Services is preferable as it would lead to greater cooperation and integration between the three Services.

#### Maintenance Services

Of the maintenance services at present, it is only the Army Service Corps which is the most common user service by virtue of its providing complete supply cover for the Navy and the Air Force and limited POL cover for the latter. However, the responsibility for supply cover for the Navy as provided by the Army Supply Corps does not extend beyond the former's shore installations. The Navy and the Air Force obtain the bulk of their POL requirements direct from civilian agencies. As this is not economical, there ought to be a single agency for procuring and distributing POL requirements of all the three Services and this agency should be the Army Service Corps. In UK, this agency system for provisioning of common user items or services is under active consideration, but the tendency is to make one of the three Services responsible for provision of specific items rather than making one of the maintenance services in the Army, the Navy or the Air Force serve the needs of the three. The agency system being adopted in UK has no doubt its good points but, extending the scope of existing maintenance services as suggested in this paper would be more beneficial for achieving closer integration of the Services.

As a further extension of what has been suggested above, transport fleets of all the three Services should also be an Army Service Corps responsibility from the point of view of economy.

Although the youngest maintenance service in the Army, the Corps of Electrical and Mechanical Engineers has been steadily expanding in order to meet the growing needs of an Army, whose weapons system, means of transportation and equipment are becoming increasingly technical. The Navy and the Air Force are even more technical, with marine and aeronautical engineering constituting distinct and wide fields of study, whose development during the past two decades has been phenomenal. Even so, the basic knowledge of mechanical and electrical engineering is common, and in the interests of efficiency, economy and progress, it is worthwhile examining whether there can be a measure of integration of electrical and mechanical engineering components of the three Services. As a first step towards closer integration, the work-load in respect of transport and common electrical and mechanical equipment could be taken on by the Corps of Electrical and Mechanical Engineers.



Because of the complexity and varied nature of ordnance stores and ammunition required by the three Services, particularly in respect of their teeth elements, integration of their ordnance organisations into one common organisation serving all the three Services may present a difficult problem. A start could, however, be made even here by the Army Ordnance Corps taking over procurement and distribution of numerous user items like MT spares, clothing and equipment common to all the three Services. Army Ordnance Corps is already responsible for providing MT spares for the other two Services. This again calls for standardisation of such items for all the Services, which would be greatly facilitated by the establishment of a Joint Directorate of Ordnance Services at the top.

Both in the UK and the USA, the problem of standardisation of equipment and terminology is being energetically tackled at inter-Service level resulting in a great deal of economy. In the USA for example, simple items like screw drivers were found to have numerous descriptions and specifications running into hundreds, although they were identical and produced in the same country. In India, where indigenous production is yet to catch up with our requirements and the bulk of our equipment is imported, the rate at which our weapons, transport and equipment is becoming diversified will soon lead us into a veritable mess, if it has not already done so. Admittedly, this has been due to compulsive circumstances beyond our control, but it has also been partly due to lack of an effective machinery capable of centralised planning, direction and coordination. Today, our crying need is rationalisation and standardisation of equipment, without which we will be powerless to prevent overlapping and waste of resources we can ill-afford. No doubt some effort is being made in this direction but the machinery is too cumbersome and slow for our needs particularly in view of the present emergency.

### CONCLUSION

The aim of integration of the Services is to enable a nation's military organism to achieve operational readiness speedily and meet any threat to national security with maximum flexibility and economy of force. It also enables the nation to exercise maximum economy in the application of its resources for the defence effort. Our efforts so far in securing such cooperation and integration has been rather limited due to numerous circumstances incidental to the development of our Armed Forces. Having regard to those circumstances and the urgent need for strengthening the Defence Organism of our country to meet the needs of modern war, the scope of integration should be both functional as well as organisational, with emphasis on the former.

There must be full integration of the Services at the highest echelon of military command in the nation. This can be achieved by re-constituting the present Chiefs of Staff Committee by the appointment

of the Chief of Defence Staff presiding over the Chiefs of Staff Committee comprising the three Services chiefs and a Deputy Chief of Defence Staff. In order to ensure central direction and coordination on all inter-Service matters, there must be a Joint Defence Staff Organisation, which would act as the pivot of all inter-Service activities.

In the interest of efficiency and economy of money, man-power and resources, the administrative and support echelons of three Services must be rationalised and organisationally integrated, wherever possible.

As the implementation of recommendations made in this Paper would have far reaching effects, there is bound to be considerable opposition to some of them, which are apt to disturb the present tight and rather exclusive organisation of the three Services. Even politically, integration of the Services as suggested in this Paper may encounter opposition because it would entail radical reorganisation of the defence structure in the country. However, once the principle of integration of the Services is accepted by the Government as vital for strengthening the Defence Organism of the country, and the necessary organisation is created at the top, cooperation at lower echelons would be automatic and mutually agreeable solutions can be found for all problems.

---

*Sit down before facts as a little child; be prepared to give up any preconceived notion; follow humbly wherein and to whatever abysses nature leads, or you shall learn nothing.*

THOMAS HUXLEY

# HEART'S DESIRE

## A PLEA FOR THE RATIONALISATION OF OUR RULES AND PROCEDURES

BY LIEUT.-COLONEL E. A. VAS

### INTRODUCTION

AFTER the Indian Army's reverses in NEFA in 1962, praiseworthy and constant improvement in the re-arming, re-organisation, re-equipping and training of units is taking place. We, however, do not seem to be making equal progress in our efforts to streamline our procedures to suit our operational needs. Troops who are operationally deployed are often still forced to practice unreal peacetime administrative routine that involves time-consuming, tedious and irrelevant procedures, which frustrate the efforts of a field commander to prepare his troops for their operational role.

A sense of apathy grows over a unit which is operationally deployed if it is asked to adopt unreal procedures. A large volume of peacetime paper correspondence and expeditors begins to flow down from the next higher headquarters and this is given attention at the expense of operational reports and returns. The fact that nothing is happening during the pre-hostility period adds to the air of unreality. Troops soon stop being specially alert and divert their attention to non-operational routine. Units accumulate large stocks of training stores, loan equipment and surplus personal baggage and unit kit, thereby losing their designed mobility. When this stage is reached, the officers and men treat their operational role as a joke and carry out their duties as if they are in a cantonment.

The aim of this article is to examine why this problem has become acute and to suggest ways of rationalising our rules and procedures to suit our different operational roles, to enable our Field Forces to be at an appropriate degree of readiness to meet varying situations.

### WHY PAPERWORK INCREASES IN AN OPERATIONAL AREA

THERE is a popular misconception that when a unit moves to an operational area, the field system of accounting will reduce paperwork. The term "field system of accounting" is a procedural hoax which is perpetrated on a unit, both when it is located in a peace station, as well as in an operational area. Today, though units are theoretically absolved from keeping ledgers whilst in a field area, in fact, all units irrespective of where they may be located or what their tasks, are all maintaining their ledgers and store accounting documents in order to avoid subsequent audit observations. The major difference is that units in an operational area are spared routine audit inspections. Even this concession is not because

of any rational regard for a unit's operational role, but only because some units are located at uncongenial outposts which the auditors find inaccessible. Once the roads are built, we may expect auditors to visit the McMahon Line in increasing numbers.

In fact, it is a mathematical certainty that a unit's paperwork will automatically increase when it moves from a peace station to an operational area. The reasons for this are not difficult to understand. Battalions now have to correspond directly with their regimental centres, service depots and Army Headquarters, all of whom are located in peace cantonments and are using peace-time procedures and routine. Units which move from a peace station to an operational area have therefore not only to continue their routine correspondence with service depots, regimental centres and Army Headquarters, but have also to handle operational correspondence e.g. sitreps, patrolling programmes, recce reports and so on. It is no wonder that written correspondence at once increases in the field and unit officers get fed up with the excessive paperwork of an operational area, and long to return to the realities of a peace station.

With due respect to the numerous commissions that have investigated the phenomenon of excessive paperwork, apparently to no purpose, it is evident that our approach to this problem is wrong. Every unit cannot have a common list of reports and returns, and to try and reduce these for all units by standardisation, is an aim that is doomed to failure. It is obvious that a unit located in a peace station must have a different routine to another which is located in an operational area where hostilities may break out at short notice or to yet another unit which is actually facing live bullets. Therefore, if we are to frame realistic procedures for each situation, we must first define the different roles that our units are likely to face, and then evolve appropriate standard procedures to suit the operational needs of each role.

#### DEGREES OF OPERATIONAL READINESS

Units which are deployed on an operational role that may involve their men facing live bullets at short notice, may be said to be located in an operational area. Units which are training elsewhere are in a peace station. These two definitions are simple, but when applied to specific situations, give rise to many problems. For example: How long could troops remain deployed in an operational area without losing efficiency? If timely reliefs are not possible, may a unit with an operational role also be expected to carry out some training? How much training is possible without this effecting operational preparedness? Should such units also face some degree of audit scrutiny? Could families be moved to join units in the field to ease the strain of long separation? Should field concessions be admissible once families are allowed into an operational area? Does a unit's role alter because field concessions are discontinued?



In the past, whenever such problems arose, we attempted to answer them by devising new instructions to meet each individual case, as required, or else we made no decisions thereby forcing units to adopt unreal procedures to suit existing but inappropriate rules at the expense of operational efficiency. This ad-hoc approach to the problem was perhaps initially unavoidable, and the result has been a profusion of orders and procedures framed to meet specific situations. As these orders are not comprehensive, they often vary for two areas even though the circumstances prevailing in both the areas may be the same or very similar.<sup>1</sup> Such anomalies give rise to avoidable heart-burning and must be rationalised in the interest of efficiency. The time has come to devise new orders. Improvement is only possible if we tackle the problem comprehensively.

The first requirement is to define the likely zones and roles in which our troops may have to operate, and then lay down general procedures desirable in each zone. A suggested classification of zones may be as follows:—

ZONE P: On Guard. Troops are in contact with hostiles or are likely to be involved in hostilities at 48 hours' notice or less.

ZONE Q: Alert. Troops are not in contact with hostiles but are likely to be moved for an operational role into Zone P or elsewhere at one week's notice.

ZONE R: Reserve. Troops are resting and training, and may only be required to move at one month's notice.

ZONE S: Foreign. Troops are located outside Indian territorial limits.

Having defined the various zones wherein our troops are likely to be deployed, we must next have to decide the general administrative procedures that units should adopt whilst operating in each of these zones. It has been emphasised that our administrative procedures must conform to our operational roles (zones) and a situation should not be permitted to arise whereby unreal procedures are allowed to handicap a unit in the performance of its task. On the other hand, since the ideal administrative procedures may often be very wasteful and expensive, we will have to bear in mind that we cannot afford to evolve grandiose procedures divorced from the prudent limitations of economy. A balance will have to be struck between these conflicting requirements. With these terms of reference in mind, a likely pattern of administrative routine, entitlements, concessions and so forth will be discussed for each zone in order to evolve standard procedures applicable to each.

---

1. Absurd anomalies have also arisen between the various services. For example, in some stations the Army is entitled to field concessions whereas the Air Force is not. Although the aim of this article is not to discuss other service rules, it is obvious that the problem is related.

## GENERAL ADMINISTRATIVE PROCEDURES

Accepting the four zones and the terms of reference discussed above, we can lay down general procedures for units deployed in each zone as follows:

**ZONE P:** Units will have survey board of clothing and equipment before entering and leaving this zone. No ledgers or accounts will be maintained whilst in this zone.

Units will move with only that equipment which is authorised on War Establishment Tables (WET). No loan, training or private stores of any kind will be permitted.<sup>2</sup> Surplus stores will be kept in formation dumps elsewhere.

Units will adopt war procedure and only originate correspondence as laid down in Standing Orders for War.

No courts of inquiry or inquests will be held for the accidental loss of equipment or for injuries or deaths. These will be reported as battle casualties and action taken as in war. Inquiries will only be held when commanders suspect negligence or foul play.

Units will not deal directly with regimental centres but will get replacements of officers and men based on relevant returns.

Units will not deal directly with service depots or Army Headquarters. Equipment will be replaced from the nearest service depot in the field on a clean exchange basis.

**ZONES Q & S:** Units will have a survey board of equipment before entering and leaving these zones. Ledgers and accounts will only be maintained by selected units within certain areas in these zones.<sup>3</sup>

Units will move into this zone with WET and excess baggage as authorised by the formation.

Other correspondence and documentary procedures for the field system of accounting will continue as is now in force in an operational area.

**ZONE R:** Normal peace-time procedures, with audit.

## FAMILY ACCOMMODATION AND RELIEFS

Having laid down in general terms the administrative policies desired in each zone, we may next consider the problem of family accommodation. The aim is to develop as many family stations as is possible, so that the strain of separation is decreased and relief problems are simplified. Family stations should therefore be built as far forward as is tactically and adminis-

---

2. Every unit is designed to fight with its WET stores and its assessed requirements of Defence Stores. If, in addition to this, loan stores are also required by a unit to carry out its task, then it implies that the WET of that unit is defective and this should be modified as required.

3. The further sub-division of zones is discussed elsewhere in this paper.

tratively possible.<sup>4</sup> There will be no argument that families cannot be permitted within Zones P & S, and all will agree that full scales of family accommodation should be built in Zone R. There can however be a divergence of opinion on the location of families in Zone Q. Families will not be permitted into some areas in Zone Q for tactical reasons. There will be other areas in Zone Q where families can be located without difficulty. Some areas, where families are permissible, may be located in uncongenial surroundings which lack the minimum desirable facilities for a cantonment.

Another important aspect is the relief of units. Psychological and physiological considerations suggest that the following standards be accepted as our norms:

Units should not be located at high altitudes or be kept under heavy operational strain for more than six months.<sup>5</sup>

Personnel should not live separated from their families for more than one year.

Personnel should be given a minimum continuous period of at least two years with their families.

It may not be possible to abide by these standards whilst we have an acute shortage of married accommodation and insufficient units to enable timely reliefs, but unless we lay down some standards we can never formulate long term plans. We should publicise our standards, take all ranks into our confidence, tell them our plans and the immediate difficulties facing us, and keep them informed on how we are progressing towards the achievement of our declared plans.

If we intend to evolve rational policies on the lines discussed, then our zones would have to be further subdivided into the following categories from the point of view of living conditions and reliefs:

ZONE P1 : Troops located in tents, bunkers or pre-fabricated structures at 9000 ft. or more above sea level. No family accommodation is tactically permitted.

- 
4. We should do well to remember that our accommodation problems have become acute, not because of a shortage of married accommodation in the forward areas, but because of our continual neglect to provide adequate married accommodation in long-established cantonments such as Delhi, Bombay, Calcutta, Lucknow etc. Married officers dread being posted from an operational area to peace stations which lack married accommodation, because they know that they will not only have to continue living in a Mess, and be separated from their families, but moreover, according to the procedures now prevailing, will also have to lose their field concessions and separation allowances.
  5. This is the maximum period for which troops can be expected to live hard and take their operational tasks seriously. If this period is extended beyond 6 months, all ranks will inevitably try to make themselves comfortable by collecting personal kit and accumulating unnecessary stores, thereby losing their hardiness and mobility.

Troops to be relieved every six months.<sup>6</sup>

ZONE P2: Troops located in tents, bunkers or pre-fabricated structures below 9000 ft. above sea level. No family accommodation is tactically permitted. Troops to be relieved every six months.<sup>6</sup>

ZONE Q1: Troops located in tents or pre-fabricated structures. Family accommodation is neither tactically permissible nor administratively feasible. Troops to be relieved every year.

ZONE Q2: Single and family accommodation is available with inadequate facilities. Troops to be relieved every two years.

ZONE Q3 & R: Authorised scales of single and family accommodation are available with adequate facilities.

Troops to be relieved every two years.

ZONE S: Troops located in tents, bunkers or billeted with locals. Families are not permitted for tactical reasons.

Troops to be relieved every year.

The posting and reliefs of officers on the staff and on ERE should also be according to the norms given above. The present procedure of treating all operational areas as "56 APO" seems to have made a nonsense of officer records. Consider the case of Officers X and Y. Officer X was serving with a field formation at 12,000 ft. above sea level, whilst Y was serving with a field formation, but living with his family at Ambala Cantonment. Both the officers had the address "56 APO". After two years, both the officers were posted to Delhi for a spell of staff duty. After two years at Delhi, X was posted to a non-family station, and Y was posted to Jammu, where he was again permitted to take his family. Both their addresses were again "56 APO". Thus, X in six years had four years of hard stations and two separations from his family; yet during this entire period, Officer Y underwent no separation or real hardship.<sup>7</sup>

Readers may look upon the above example as proof that Officer Y had influence in high places; this is not so. I consider that Army Headquarters has insufficient data to formulate sound career plans. It should be obvious from the above example, that essential information which should be recorded in each officer's annual confidential report, is the types of sta-

6. Some may consider 6 months an impractical standard. It is convenient to organise such reliefs, since the units located in Zone P1 will normally be relieved within a formation. Such moves are no more difficult to organise than a routine move for collective training. Moreover, this will be less costly to the state, as the unit will only move with its WET scales and should then, literally be able to walk in and out.

7. This is an actual case history; both are serving officers.



tions he has served in, for the period of the report.<sup>8</sup> In the suggested system, the zonal code letters P1, Q2 etc. can conveniently be recorded by the initiating officer and endorsed with the date, showing period of stay in each zone and whether the officer's family stayed with him, and if not, the reasons for this. Unless this is done, our individual officer postings can never be rational, fair or just.

### MISCELLANEOUS ENTITLEMENTS AND CONCESSIONS

To authorise a separation allowance, pay this to some of the officers who are separated and not to others who are in similar circumstances, is to make a farce of the allowance. It is sad to meet officers serving in a field area, separated from their families for years, still awaiting the authorisation of their separation allowance. To announce that the reason for the delay is because the matter is under active consideration is to add insult to injury.

Once we decide that those who are separated from their families due to service conditions are to be entitled to a separation allowance, then the question of considering individual cases should never arise. By this rule, an officer who is in Bombay and made to wait for married accommodation, should also be entitled to get the allowance for every month that he is made to wait until his family can join him. If our budget cannot meet this expenditure, we should either reduce the allowance to what we can afford, or re-allot our funds rationally, by restricting this allowance to only some zones. Whatever be the decision, we should explain the difficulties to those concerned and issue orders based on scientific rationalisation rather than continue with a system that results in delays and anomalies.

The question of officers' rations also requires consideration. At present, on entering a field area, the officers get Officer Rations as a free entitlement; and the JCOs and men, who are anyhow authorised free rations, are given a Special Compensatory Allowance.<sup>9</sup> There is a growing body of opinion that it is undesirable from the administrative as well as the morale point of view, to have separate scales of officers' rations and that the officers should be given free basic rations and Rs. 30/- per month as a Special Compensatory Allowance, in order to conform the entitlements and allowances now being given to the others. There are some who go a step further and recommend, for reasons of morale, that officers' messes be closed down in areas where units are deployed at a high degree of operational

---

8. The Military Secretary's Branch may have had this in mind when they sent out instructions that an officer's station would be indicated where his appointment is now being shown. This ruling confused all. Some wrote "56 APO" lest security be jeopardised; others gave their locations in clear and up-graded their confidential reports to SECRET

9. At the following rates: JCOs—Rs. 15/-; NCOs—Rs. 10/-; OR—Rs. 8/- per month.

readiness.<sup>10</sup> These suggestions will undoubtedly upset those who resent losing their gastronomical privileges. If we are sincere in our desire to alter procedures to suit our operational requirements, we should be honest enough to do so irrespective of any personal inconvenience which may result.

The introduction of families into a non-family station is an issue which raises controversy whenever discussed. Normally, the presence of families pre-supposes that the basic requirements of accommodation and food are either being provided by the Army on payment or are available in the open market. We all know that officers who live with their families in a peace station are not entitled to free rations, therefore, we realise that we are likely to lose our entitlements of free rations if even a single family is permitted into a concessional area. Thus, whilst the happily married officers anxiously strive to convert non-family stations into family ones, the bachelors and those who prefer that their wives do not join them, zealously frustrate their efforts in order to safeguard their entitlements of free rations. It is possible to rationalise these conflicting desires.

The rules for the issue of kit on payment to the officers also require to be modified. At present, an officer is expected to purchase this through his unit Quarter Master at special rates, which for some items is as much as double the OR payment rate. This is a bad rule as it encourages corruption. An honest officer who obeys the rules will pay Rs. 32/- for a pair of boots. A less scrupulous officer breaks the rule, buys his boots on an OR's name, pays only Rs. 13/- for these and can never be detected. Others who are quite unscrupulous can exchange their boots free of cost; they may lose the respect of their men, yet they can never be detected. We must evolve workable rules which encourage the majority to abide by them. It is obviously impractical to have a separate payment rate for the officers.

Leave rules and entitlements should also be reviewed. When the present Emergency was declared, all officers' leave was restricted to thirty days. For practical reasons this order was obviously necessary. Its implementation, however, was grossly unfair to those who were serving in remote regions. It took some officers over four days to reach their homes. Thus, an officer living with his wife in Delhi, got thirty days leave with his family, whereas an officer posted in the remote regions, whose need for leave was very real, got only twenty-two days at home. Unlike those who are separated from their families, the officers who are living with their families do not require one long spell of annual leave. It would be more satisfying for

10. As a company commander living in a picquet, I have dined with my company langar for periods upto 2 years. Again as a battalion commander in NEFA, I did not permit any officers' mess for a period of 5 months during which time the officers dined in their respective company langars. In neither case were any special difficulties experienced; the morale effects were overwhelmingly favourable.

such officers to be given frequent short periods of relief from work, rather than one long spell of leave every year. Officers who live with their families should be encouraged to get away from their offices on Friday evening for long week-ends. They would then return to work every Monday far healthier in mind and body. An officers' leave entitlement should be related to his location and his unit's role.<sup>11</sup>

The use of batmen (orderlies) by officers is another matter which requires attention. Orderlies are authorised to all officers serving with units which function on war establishments. They are an operational necessity in Zones P and Q1, but have a less constant operational role in the other zones. Officers who are not authorised orderlies on their establishments are under no circumstances permitted batmen and should employ civilian servants or be prepared to pay for the services of a batman if one is provided to them. Unless we enforce the rules rigidly and stop treating this subtle form of corruption as a joke, we cannot expect to win the respect of our men.

Suggestions for various allowances and concessions based on the considerations discussed above, are shown as an Appendix together with a summary of the suggestions proposed previously for general administration, accommodation and reliefs.

### IMPLEMENTING THE NEW PROCEDURES AND RULES

The suggestions which have been discussed are by no means exhaustive. Items like travel and dress regulations, rates of travelling and daily allowance, use of government transport, training routine and so forth have not been considered.<sup>12</sup> A committee consisting of senior service officers and appropriate civilian advisers should be convened to rewrite the detailed rules and regulations for the Army based on a clear directive on the lines suggested. It is recommended that this be an inter-service committee so that rational rules applicable to all three services may be evolved.

After standard procedures have been framed and published for each zone, all military contonments, camps and deployment areas will have to be classified according to the zonal code letters decided. This is necessary

- 
11. As long as the majority of our jawans come from an agricultural background and are only entitled to a percentage of married accommodation, they should continue to get their full entitlements of annual leave every year, irrespective of their service conditions. It is for consideration whether JCOs should not conform to the rules being suggested for officers.
  12. Take for example training. It is of interest to consider what should be the procedures for a unit or formation which is located in Zones P & S. Readers could no doubt think of rational answers to the following problems: Should such units/formations be issued with a training directive? Could they be expected to do any more than individual training, and that too at the discretion of the Commanding Officer? Should they be expected to issue training reports and returns? Should they be allotted any training grant or training ammunition?

so that all concerned may know which particular set of rules and procedures should apply for their respective locations. When new camps are established, their classification will have to be decided and made known to all concerned. Stations will alter their classification whenever the role of a unit which is located there is altered, or the type of accommodation built there is improved or families are permitted into the area.

For example, when the role of a unit stationed at a P2 type station is altered to a lower degree of readiness, the station will have to be re-classified as a Q1 type station. Similarly, a Q3 type station may become a R type station for the same reasons i.e. a change of role of a unit located there. On the other hand, a Q2 type station, which has restricted scales of accommodation built in the station, will be re-classified as a Q3 type station once the full scales of accommodation are built there. So also, a Q1 type station where families are not permitted will be re-classified as a Q2 type station when wives are permitted to join their husbands. It is for this reason that the classification of stations will have to be reviewed from time to time. This could be done at Army Headquarters and a list of stations showing revised classifications could be published every year. However, the standard procedures laid down for each type of station remains unaltered.

The advantage of the suggested system is that once our standard rules and procedures for each zone have been framed and published, these can be automatically applied by units to changing situations without the need for fresh rules or long delays whilst new problems are under consideration. All that will be required is for a higher headquarters to inform Army Headquarters of changes that are initiated or developed in respect of a unit's role, or the construction of new accommodation or the presence of families. Army Headquarters can then issue a revised station classification to suit the changing circumstances. Units, when informed of the classification of their location, will automatically know what their entitlements are, and which standard procedures and regulations are to be followed by them.

It should be apparent that the general administrative routine which is dealt with by a formation located in Zone P would be very different to that which is dealt with by a formation located in any of the other zones. Army and Command Headquarters, now despatch routine letters to all addressees on their lists, irrespective of whether the subject matter can be studied by the recipients or not. This tendency is repeated down the chain of command and the poor unit commanders are flooded with a large volume of relevant but inappropriate mail. For example: an Army Headquarters Training Note, though obviously applicable to all Army units, should never be posted to a formation or unit located in Zones P & S. Copies should be printed for these units, and kept for issue to them on their return to Zones Q or R. Higher headquarters, specially at the Command and Army



levels would therefore need to reorganise their address lists and standard procedures for the despatch of routine correspondence.

Our search for efficiency, in some cases, results in a saving to the State. The examples of officers' rations, officers' messes and the rationalising of leave rules particularly illustrate this point. The aim is not to save money, but to increase efficiency. Saving money whilst framing Army Rules can seldom be an end itself; it must be balanced by some return in fighting efficiency, otherwise it would be best to abolish the Armed Forces entirely. Some of the suggestions, if adopted, will mean the loss of certain entitlements to some categories of officers. Here again, the aim is not to reduce the privileges of officers, but to achieve efficiency by rationalising procedures and ensuring that entitlements are properly re-distributed to those who most merit and require them. The loss of a few privileges by certain categories of officers is incidental.

Some officers whilst admitting the logic of the proposals may advise that the Defence Forces should not volunteer to give up any of their entitlements until the allowances of the Indian Administrative and Foreign Services are also rationalised. It is agreed that officers are human and that undesirable disparities are bound to cause comment and dissatisfaction. However, although it would be human for us to resent the surrender of an allowance whilst our civilian counterparts continued to enjoy the benefits of the allowance, it would be more logical, and in keeping with the times, for us to request that the rules for civil servants' allowances also be rationalised so that undesirable anomalies are removed, rather than for us to press for the retention of an inappropriate entitlement in order to keep in line with an irrational civilian disparity. If the Services give a lead and rationalise procedures, the authorities are bound to take note of blatant anomalies between the Civil Services and the Defence Forces and to take steps to ensure that the Civil Services also review their entitlements in the interest of efficiency, economy and standardisation.<sup>13</sup>

### CONCLUSION

Although constant improvement in the re-arming, re-organisation, re-equipping and training of units is taking place, our Army has had to face rapidly changing roles and situation which had never been thought of before. Some of our orders, instructions and standard procedures are out of date and are proving a handicap to units in

13. It is not being suggested that the rates of pay and allowances of the Civil Services should be equated with the Defence Forces. It is absurd disparities which should be eliminated. Take for example the anomaly whereby Sikkim is treated as "special service" for Civil Servants, but as "Home service" for the Defence Forces. Although the aim of this article is not to discuss other service rules, it is obvious that such problems are related. Perhaps the committee to re-write rules should not only consist of Defence Services' officers, but be more widely representative and also include officers of all the Central Services so that anomalies are avoided whilst comprehensive proposals are being framed for the Armed Forces.

the proper execution of their operational roles. Our attempts to devise new rules result in long delays in the finalisation of procedures and entitlements, and often give rise to undesirable disparities and anomalies. The magnitude and variety of the changes in every aspect of India's public services and ways of life, coupled with the speed of their evolution, is creating a situation in which service officers are getting lost in a jungle of orders and procedures, and are becoming increasingly incapable of dealing in a rational manner with the consequences of ad-hoc and out-of-date orders.

The remedy does not lie with us holding boards to examine specific problems. It is to intelligent rational reorganisation, increasingly widespread, that we must look for the solution to unwieldy procedures and inefficient rules. It becomes essential to outline zones of likely operations and lay down standard procedures applicable to these. A suggested classification of zones and various procedures which could be adopted therein, have been discussed. An outline summary of suggestions is given as an Appendix. Units which are to carry out an operational role have been given procedures which will enable them to function purposefully and efficiently. These proposals are by no means exhaustive. However, enough has been discussed to illustrate the need for such a system of standard procedures, and to indicate why the problem must be considered comprehensively and rationally. Readers will no doubt think of many refinements.

Pride and affection for traditions and comfortable rules are no substitute for useful purpose. If purpose is lacking, tradition becomes a mere facade for complacency, mental sloth and self-interest; and atrophy sets in. This is not to suggest that all the old rules should be changed and human effort bound up in them wasted. Problems must be faced and solved. Our notifications, orders, instructions, rules and regulations are not historical edicts. These are living, changing things and can never be better than the generation of officers in whose hands the honour, welfare and safety of the nation is entrusted. An Army's rules and traditions are continuously being re-created for good or ill by its officers. This may strike some as an unnecessary bother and interference with well-established traditions; but it will also summon others to greater efforts to—

*Grasp this sorry Scheme of Things entire and  
Re-mould it nearer to the Heart's Desire.*

---

## Appendix

Zonal Code Number	P 1	P 2	S	Q 1	Q 2	Q 3	R
General Description of the various Zones	ON GUARD : Troops are in contact with hostiles, or are likely to be involved in hostilities at 48 hours notice or less.		FOREIGN : Troops are operating outside Indian territorial limits.	ALERT : Troops are not in contact with hostiles but are likely to be moved for an operational role, into Zone P or elsewhere at one week's notice.			RESERVE : Troops are resting and may only be required to move to Zone Q or elsewhere at one month's notice.
General Pattern of Administration	Survey board is held before entering/leaving. Units move with only WET stores; No loan, training or private stores will be permitted. Units will adopt war procedures and only originate correspondence as laid down in Standing Orders for War. No Courts of Inquiry or Inquests will be held except when negligence or foul play is suspected. Injuries, losses and deaths will be reported as battle casualties and action taken as in War. Units will not deal directly with service depots, Army Headquarters or regimental Centres. Equipment is replaced from the nearest field installation.		Survey board is held before entering/leaving. Units move with WET stores and except baggage as authorised by the formation. Other correspondence and documentary procedures for the field system of accounting will continue as is now in use in an operational area.			Normal peace-time procedures.	
Degree of Audit	No ledgers to be maintained. No audit.		Check audit for service installations only.		Check audit for all units		Normal peace-time audit for all units
Families Permitted	No				Yes		
Type of Accommodation Available	Single accommodation located above 9000 ft. above sea level in tents, or bunkers or pre-fabricated structures.	Single accommodation located below 9000 ft. above sea level in Tents, or bunkers or pre-fabricated structures, or billeted with locals.		Family accommodation which lacks the normal facilities desired in a cantonment.		Authorised scales of single and married accommodation	
Charges for Rent, Water & Electricity	Free			Nominal charges for officers living with their families.		Full charges for all officers.	
Separation Allowance	Officers who are separated from their families for more than six months due to service conditions will be entitled to Rs. 50/- per month for every month of separation.						
Relief	After a maximum tenure of six months.		After a maximum tenure of one year.		After a minimum tenure of two years.		
Ration Entitlements and Concessions	All ranks entitled to high altitude rations and uncongenial allowance.	All ranks entitled to free rations.	All ranks entitled to free rations and overseas allowance.	All ranks entitled to free rations.		Officers will not be entitled to free rations.	
Messes and Mess Maintenance Allowance	No officers' messes will be permitted. No mess maintenance allowance will be authorised.		Officers' messes are permitted. Messes will be entitled to mess maintenance allowance.				
Miscellaneous Concessions	Services of batmen are authorised free of cost. Special Compensatory allowance is authorised at the following scales :  Officers— Rs. 30/- per month      OR      Rs. 8/- per month. JCOs — „ 15/- „ „ NCOs — „ 10/- „ „					None will be entitled to Special Compensatory Allowance. Officers who are authorised batmen on their establishments, may request for their services, for which they will be charged at prevailing rates.	
Leave Entitlements	60 days every year.		Not entitled to home leave. May accumulate 30 days leave.		60 days every year.		Single officers entitled to 60 days every year. A married officer who is separated from his family because of service conditions for more than 6 months in a year, will be entitled to 60 days leave for that year. Those living with their families will be entitled to 30 days every year, with the privilege of long week-ends.
Payment Items	Officers are entitled to purchase items of clothing and equipment at OR rates of payment.						





## NEHRU AS A WRITER

BY A. RANGANATHAN

IN one of his characteristic moods of introspection Mr. Jawaharlal Nehru observed: "I am not prepared to say that the many years I have spent in gaol have been the sweetest in my life, but I must say that reading and writing have helped me wonderfully to get through them. I am not a literary man, and I am not an historian; what, indeed, am I?" The answer is that Mr. Nehru was undoubtedly one of the most protean figures of the century. Significantly enough, those circumstances and qualities which helped Mr. Nehru to acquire his reputation as a journalist, writer and historian, had also contributed to his greatness as a politician, orator and statesman. This is not a case of versatility, but of unity. For his personality is revealed in his writings. And from his writings Mr. Nehru emerges as one of the authentic spokesmen of our age.

It is interesting to reflect on the fact that Prof. Trevelyan's famous works on Garibaldi provided the vehicle for Mr. Nehru's youthful reflections on the intimate connections between literature and the concept of national freedom. Young Jawaharlal got one of Prof. Trevelyan's Garibaldi books for good work while studying at Harrow. Nehru was so greatly fascinated by this work that he obtained the other two volumes of the series. Let his own words explain it: "Visions of similar deeds in India came before me, of a gallant fight for freedom, and in my mind India and Italy got strangely mixed together." In his 'Garibaldi and the making of Italy', Prof. Trevelyan remarked that Garibaldi "is perhaps the only case, except Byron for a few weeks in Greece, of the poet as man of action." And Prof. Trevelyan has also stated that "Garibaldi will live as the incarnate symbol of two passions not likely to die out of the world—the love of country and the love of freedom, kept pure by the one thing that can tame and yet not weaken them, the tenderest humanity for all mankind." Nehru combined in himself the Garibaldian concept of freedom and the intellectual equipment of a scholar-statesman who rebelled heroically and contemplated with the freedom of a poet. It is hardly surprising that Mr. Nehru was deeply influenced by Prof. Trevelyan, who was a poet among historians. Indeed the young Indian poet Don Moraes once remarked that Mr. Nehru was doing with India what poets do with words. It is this love of the country, transfigured by the love of freedom, which contributes to the aesthetic charm of his works.

Pandit Nehru's contribution to literature was no side issue from his political activities. It is an expression of the whole man, his general outlook and his personality. The style is the man himself and the medium which he had perfected with such cultivated sensibility is a prose as sensitive as his own personality. Indeed Basil Mathews speculated whether

some day Mr. Nehru's niche in the world's valhalla would be ensured by his literary craftsmanship rather than by his political statesmanship. And John Gunther observed that Nehru spoke and wrote English "in a style which hardly a dozen men alive can match." And Mahatma Gandhi, himself a master of English prose, complimented Nehru for his sensitive description of *khadi* as the "livery of freedom".

Pandit Nehru's famous statement in the wake of his trial at the Gorakhpur prison on November 3, 1940, reflected his passion for liberty as well as his love for words. Mr. Nehru said: "I am a lover of words and phrases and try to use them appropriately. Whatever my opinions might be, the words I use are meant to express them intelligibly and in ordered sequence."

In an address to the second Inter-University Youth Festival at New Delhi on October 23, 1955, Mr. Nehru gave a charming account of the circumstances which inspired him to write his three major works. The Autobiography was written in an attempt to fix himself in the context of the Indian struggle, although the book was more about the struggle in India than about himself. With his usual candour, Mr. Nehru stated that he was a kind of central figure from his point of view, as everybody is from his point of view. Then he wrote his "Glimpses of World History" since he needed a larger canvas to view his country and his age in the proper perspective of world history. And having acquired the larger frame, he focussed his vision on the panorama of Indian civilization and wrote "The Discovery of India".

Mr. Nehru's earliest work, "Letters from a Father to his Daughter", gives us an idea of his approach to historical writing, based on a peculiar blending of the personal with the universal. To cite an example, he refers to their visit to the South Kensington Museum in London, in his account of fossils. Again, he begins his chapter on 'The First Living Things' with a reference to Sir Jagadish Chandra Bose's visit to their home and his researches into the response of the living and the non-living. This method is projected on a broader canvas in his "Glimpses of World History" and "The Discovery of India". Just as Mr. Eliot mixed 'memory and desire' in an altogether new poetic idiom, Mr. Nehru fused those 'intimate touches' (which were meant only for his daughter) with a sweeping view of history. Indeed his personal reminiscences are blended with some of the profoundest reflections on the vistas unveiled by the successive epochs in history through time and space. This approach evokes memories of T. S. Eliot's famous lines:

*"Time present and Time past  
Are both perhaps present in Time future."*

In this sense, Mr. Nehru's Autobiography is also a work of history, since it dramatizes the life of one who made a tryst with destiny and fulfilled it.

Similarly he is able to blend his account of Mrs. Kamala Nehru's illness and death with a spacious assessment of the cultural foundations of Indian nationalism even more artistically in his work entitled "The Discovery of India".

If the peculiar circumstances of the age of Indian Nationalism had not drawn Pandit Nehru into the vortex of politics, he could well have led a Horatian pattern of living in an Indian setting, rejoicing in books, climbing glaciers and enjoying the almost ethereal beauty of Kashmir in the select company of a few friends. While Mr. Nehru revealed his sweep of scholarship and scientific powers of reasoning in his historical and political writings, it is clear that his delicacy of perception is reflected in his writings on themes related to art, nature and culture.

The dream-like beauty of Kashmir constituted a perennial source of creative insights and inspired Nehru to write his finest prose. Indeed his description of Kashmir which appeared in his collection of occasional pieces entitled "The Unity of India", unveils vistas of the fairy magic of Walter de la Mare's poetry: "Like some supremely beautiful woman, whose beauty is almost impersonal and above human desire, such was Kashmir in all its feminine beauty of river and valley and lake and graceful trees. And then another aspect of this magic beauty would come to view, a masculine one, of hard mountains and precipices, and snow-capped peaks and glaciers, and cruel and fierce torrents rushing down to the valleys below. It had a hundred faces and innumerable aspects, ever-changing, sometimes smiling, sometimes sad and full of sorrow. The mist would creep up from the Dal Lake and like a transparent veil, give glimpses of what was behind. The clouds would throw out their arms to embrace a mountain-top, or creep down stealthily like children at play. I watched this ever-changing spectacle, and sometimes the sheer loveliness of it was over-powering and I felt almost faint. As I gazed on it, it seemed to me dream-like and unreal, like the hopes and desires that fill us and do seldom find fulfilment. It was like the face of the beloved that one sees in a dream and that fades away on awakening."

This is similar to his description of the clouds, which is one of the most sensitive passages in his "Autobiography". There is an elusive wistfulness, which is evocative of Kalidasa's 'Meghadhuta'. For Nehru languishing in the little gaol of Almora and gazing at the vast expanse of the blue sky dotted with clouds evokes memories of the banished Yaksha in the solitude of Mount Ramagiri waiting to commune with the cloud. Mr. Nehru wrote in this delicately lyrical manner: "Wonderful shapes these clouds assumed, and I never grew tired of watching them. I fancied I saw them take the shape of all manner of animals, and sometimes they would join together and look like a mighty ocean. Or they would be like a beach and the rustling of the breeze through the deodars, would sound like the

coming in of the tide on a distant sea-front. Sometimes a cloud would advance boldly on us, seemingly solid and compact, and then dissolve in mist as it came near and finally enveloped us."

There is an exquisite reserve about his sentences that delicately whispers the meaning of the Indian heritage at different levels of perception. For instance, his description of the Indian heritage as "some ancient palimpsest on which layer upon layer of thought and reverie had been inscribed, and yet no succeeding layer had completely hidden or erased what had been written previously" is at once suggestive and panoramic. And in a profoundly moving passage Mr. Nehru has captured the marmoreal quality of the Buddha: "Seated on the lotus flower, calm and impassive, above passion and desire, beyond the storm and strife of this world, so far away he seems, out of reach, unattainable. Yet again we look and behind those still, unmoving features there is passion and an emotion, strange and more powerful than the passions and emotions we have known. His eyes are closed, but some power of the spirit looks out of them and a vital energy fills the frame. The ages roll by and Buddha seems not so far away after all; his voice whispers in our ears and tells us not to run away from the struggle but, calm-eyed, to face it, and to see in life even greater opportunities for growth and advancement."

Mr. Nehru was a delightful letter-writer. Here we are not referring to his letters on historical themes to his daughter, but to that charming bunch of letters which he had written to his friends and relatives. The letters of Mr. Nehru and the liberal statesman the Rt. Hon'ble V. S. Srinivasa Sastri have an abiding place in Indo-Anglian literature. For these letters mirror an unforced style which is reminiscent of Madam de Sevigne, that great letter-writer of seventeenth century France, "who wrote in the style which was natural to her personality and which was not forced."

"Literature, after all," wrote that distinguished critic Sir Arthur Quiller-Couch, "is memorable speech". And Mr. Nehru's contribution to literature in this context is also impressive as his writings. His speech on the eve of India's freedom was a truly inspiring speech. As India's spokesman, Mr. Nehru had immortalized a moment of our history in an idiom, which was as notable for its reserve as it was for its condensed prose. For what was not said was even more eloquent: "Long years ago, we made a tryst with destiny, and now the time comes when we shall redeem our pledge, not wholly or in full measure, but very substantially. At the stroke of the midnight hour, when the world sleeps, India will awake to life and freedom." And the memorable speech made by Nehru in the wake of Gandhi's assassination is not only a classic of English prose but could also be ranked with the world's great funeral orations. Pandit Nehru's opening statement that "the light has gone out of our lives and there is darkness everywhere" could well be applied to him. And his illuminating observa-



tion on "the light that has illumined this country for these many years will illumine this country for many more years, and a thousand years later, that light will still be seen in this country and the world will see it and it will give solace to innumerable hearts" is a comforting ray of thought in our deepest moment of anguish.

Mr. Nehru's will is not only artistically conceived, but is also his finest tribute to the Ganga, that river of India's culture and civilization, which flows majestically through his 'Discovery of India': "The Ganga above all, the river of India, has held India's heart captive and drawn uncounted millions, to her banks since the dawn of history. The story of the Ganga, from her source to the sea, from old times to new, is the story of Indian civilization and culture, of the rise and fall of empires, of great and proud cities, of the adventure of man and the quest of the mind which has so occupied India's thinkers, of the richness and fulfilment of life as well as its denial and renunciation, of the ups and downs, of growth and decay, of life and death."

Indeed there was a certain artistic appropriateness in immersing a portion of his ashes into the Sangam at Allahabad. For Mr. Nehru's mind was a truly universal confluence of ancient Indian rivers and cultural traditions, secular concepts of national integration and Western humanism and modern scientific progress.

While reflecting on Nehru's life and achievements, one is inevitably reminded of John Donne's immortal lines:

*"Death, be not proud. . .  
And Death shall be no more;  
Death, thou shalt die !*

Mr. Nehru's writings, dramatized in a moment of destiny, will be cherished for ever as a part of our heritage.

---

# THE STABILITY OF THAILAND

BY MAJOR EDGAR O'BALLANCE

## INTRODUCTION

It has been said that some of the smaller countries of South East Asia, such as South Viet Nam, Laos, Cambodia and Burma, are like a house of cards, and that if any one of them was knocked away by Communism, all would suddenly collapse. Thailand is regarded hopefully as an exception. Thailand is certainly comparatively stable for this part of the world, and its stability dates really from the bloodless army coup d'etat of 1957, which brought General (later Field Marshal) Sarit Thanaret to power to become virtually a military dictator of the country. Under his guidance graft and corruption were curtailed and Communism was suppressed, which attracted foreign investment, badly needed to enable industries to be established and to help economic development. Firmly anti-Communist and pro-Western in outlook, Sarit's attitude and firm administration pleased America, which poured in money, economic and military aid.

Thailand became a prominent member of SEATO (South East Asia Collective Defence Treaty), the pact designed to prevent the spread of Communism in South East Asia, but as she was actually part of the land mass, and not separated from the mainland by a stretch of water, she is in almost direct contact with the erosion and so much more vulnerable. Thailand has problems, some of which are not fully appreciated, so perhaps a few comments about a few of the more important may provide a background against which to assess how she might re-act to future events.

## ECONOMIC SITUATION

THAILAND has been an independent kingdom since the 13th Century, and has an area of about 198,250 miles, and a population of about 26 million. To give a brief economic picture the main exports are rice, timber, sugar-cane, tobacco and some minerals, while the main imports are textiles, machinery, vehicles, petroleum and consumer goods. The country has an agricultural base, there is sufficient for the people to eat and a surplus for export as well. Thailand has some mineral deposits, and quantities of wolfram, iron, lead and lignite are mined. Foreign aid has enabled several industrial projects to be started.

## COMMUNICATIONS

Communications are as yet comparatively sparse for such a large country, much of which is jungle, forest and mountain. The several rivers are used whenever possible as a means of transport and around the coast small coastal craft are used. There are about 2,250 miles of railway (of

metre gauge only) which reach out from Bangkok, the capital, which is the only large city in the country and contains about 2.5 million people, well into the interior and southwards down the Kra Peninsula.

There are just over 7,000 miles of all-weather roads. An intensive strategic road building programme has been in progress since 1960, and help has been given by military engineers from SEATO countries. Also, under SEATO arrangements, airfields have been, and are being, constructed at strategic points, some capable of accommodating supersonic aircraft. An internal civil airline operates inside Thailand.

Since 1953, loans have been received from the World Bank to improve communications and harbours, and also to start irrigation and hydro-electric schemes. The general deduction must be that Thailand is better off for strategic communications than some of her immediate neighbours, but is still somewhat restricted.

### THE ARMED FORCES

Conscription exists in Thailand, the men serving for two years. The total armed forces are estimated to be in the region of 134,000. In addition there are about 30,000 police, armed and trained on military lines, who patrol the border areas and look after internal security.

The army has a standing strength of just under 100,000 and is formed into four divisions, of which three are infantry and the other armoured. The triangular system is adopted, the divisions having three regiments, and the regiments three battalions. It was announced in February 1963, that the armed forces were to be completely re-equipped with American arms and material, which was to include modern tanks. It must now be assumed that this programme of re-equipment is well advanced, which would mean that Thailand has a fairly large and well-armed army.

The majority of the officers are long-service professionals, and participation in SEATO exercises and contact with the armies of SEATO countries has raised their level of competence. Senior officers attend the staff colleges and other instructional centres in SEATO countries, especially America. The men are sturdy fighters, who acquitted themselves well in battle with the French in 1941, at the Mekong River, and also in the Korean War. Their state of efficiency and training is reported to be quite high for a small Asian country.

The air force has about 350 aircraft, which include about 40 F-86 Sabres and about 30 F-84 Thunderjets. The remainder are either trainers or older aircraft. The navy consists of 7 frigates and destroyers and just over 30 other smaller vessels. The manpower strength of the navy is

quoted as being about 18,000. In addition, there is a marine element which numbers about 3,500.

It can be seen that Thailand can make quite a welcome and formidable military contribution to SEATO, but she would have to rely upon her Allies entirely for equipment, vehicles, arms and ammunition.

#### INTERNAL PROBLEMS

The main internal problem is that there are several racial minorities in Thailand, and that centuries of neglect and indifference (Thailand was never colonised by any Western Power in the 19th Century as were most other South East Asian countries in that part of the world) has not in many cases endeared them to the Central Government. This is being rectified. The main anxiety is the nearly 9 million people of Laotian stock who inhabit the north-eastern part of Thailand, which lies alongside Laos, separated only by the River Mekong. This is the poorest part of Thailand and in recent years there have been spasmodic rumblings of discontent. It has been reported that numbers of Communist agents have infiltrated in amongst them.

The Government answer has been to form Mobile Development Units, on the lines of the US Peace Corps, and send them into this region to teach the people, help to improve agriculture and sanitation, and to combat Communist propaganda. They seem to be having considerably more success than the subversive agents, but although that region has remained fairly quiet it will continue to be a source of anxiety for some time to come. Large sums of money have been set aside for its development and improvement.

In the far north there are several primitive tribes, such as the Meo, the Tao, the Lahu and the Lisu, who until recently were ignored by the Central Government, but steps are now being taken to educate them, improve their standard of living and to persuade them to be loyal to the Central Government. In the west is a Karen element near the Burmese border, which is occasionally rebellious and unco-operative. This indicates that Thailand is not necessarily the solidly united country the West has always pictured it to be. In addition, there are rumours of a large band of Communists at large in the mountains and jungles in the north, and there are groups of Chinese Nationalist soldiers which haunt the western borders, scavenging partly in Burma and partly in Thailand. This means that racial minority movements, demanding autonomy, could spring up, and also that the guerilla bandits could become more than a nuisance overnight if given illicit arms and support.

When Prime Minister, Sarit, firmly stamped out Communism in Thailand, being so successful that it is not thought that it is any real problem.



As far as can be seen there is no strong underground Communist movement in existence. Sarit's methods were harsh, but effective. It is alleged that several thousand Communists are still detained, and that many more have been deported. Within Thailand there is a Chinese minority, which might probably harbour a Communist fifth column if preventative measures are relaxed, so this possibility cannot be completely ignored.

Sarit died in December 1963, since then the country has been governed by General Thanom Kittikachorn. Senior army officers promised to support him which they have done ever since. The army is the dominating force in the country. As long as the generals continue to support Thanom one can assume that Thailand will continue on its present path to strength, prosperity and become more united. The problem may arise if the generals become dissatisfied or jealous. Thanom is not the strong man Sarit was. If the generals form cliques and angle for power then coup d'etats may become the pattern, with one military junta overthrowing another. This would not only be disastrous for the good of the country, but may cause schisms within the army, which would split it wide apart and reduce its capability for external defence.

#### EXTERNAL PROBLEMS

The main external problems are the nearness of aggressive Communism and the instability of her neighbours. To the north, Thailand is only separated by a narrow stretch of Burmese and Laotian territory from Red China, but although the terrain presents no problem and the Thailand armed forces would be unable to halt Red Chinese troops, this does not cause such a headache as Red China still prefers to fight her battles by proxy.

Being a SEATO member has undoubtedly helped Thailand deter open attacks on her. For example, each time there has been a serious crisis in Laos during the past two or three years, SEATO countries have rallied round and either large scale exercises have been staged in or around Thailand, or SEATO troops have been temporarily landed there. There are currently about 2,600 US military personnel in Thailand. In May 1962, two full combat groups were sent at the request of the Thailand Government, when the situation in Laos deteriorated. This has done much to deter potential open aggression. As long as the major members of SEATO, such as America, continue to take this line of action Thailand may be safe from external conventional attack.

The real danger is Communist seepage into Thailand, especially in the north-eastern region, where the Communists in Laos hope to be able to subvert the people and eventually set up guerrilla bases. Laos is already three parts occupied by Communist forces, the Pathet Lao, and if they

succeed in taking over the whole country, Communism will be brought to Thailand's doorstep. It is often pessimistically said that if the Communists cross the Mekong, it will be the beginning of the end in South East Asia. For this reason the Thailand Government has considered whether or not to move troops into Laos to prevent Vientiane from falling.

Whether the Communists will ever succeed in gaining a hold over the people in Thailand's north-eastern provinces will perhaps depend in the first instance on the success of the Mobile Development Units. Again, if these are to have continued success they require money, material and support. If Communist guerilla fighters manage to infiltrate into this part of Thailand, they may not find the going so easy. In February 1963, it was announced that over 14,000 troops had been put through an intensive month-long anti-guerilla training course. This is now one of the most important features of the Thailand army training programme. In addition, officers and civil servants are put through courses in psychological warfare. The pending struggle for the north-eastern provinces will be of interest. Thailand may be able to show the world how Communist subversion can be defeated in its early stages.

#### CONCLUSION

Thailand may remain a stable bastion against Communist erosion in South East Asia, but to do so her steady progress must continue and she will require the full support of her SEATO Allies. Alone it is doubtful whether she would be completely viable. If Laos falls completely to the Communists, the Communists will try to infect the people of Laotian stock in the north-eastern provinces of Thailand, when a situation similar to that obtaining in South Viet Nam today may develop.

---

[REDACTED]

[REDACTED]

[REDACTED]

# MOTIVATION IN MILITARY LEADERSHIP

MAJOR GENERAL A. S. NARAVANE

## INTRODUCTION

To put the matter in easily understandable terms, motivation in military leadership really involves the examination of the factors which impel an individual to do certain things even at the risk of his life so that he may lead to success in military operations the men under his command. Consideration of this very important subject can be divided into three parts namely, what is it that makes an individual take certain decisions and perform certain deeds knowing fully well that the decision or the performance of the deed may involve the risk of death both for himself and for those under his command; secondly, what are the qualities required in an individual who is to make such decisions i.e. qualities of leadership; and thirdly, how should this dedication to the cause and qualities of leadership be developed in our officer cadre.

## CONCEPT OF DEDICATION TO A CAUSE

ANCIENT and modern history contain examples of many different motivating forces which inspired men to give up their lives. Amongst these are defence of their country, defence of a faith, defence of one's loved ones and defence of a way of life. Of these, the defence of one's country and the defence of a faith are perhaps the most important though the other two are also very important. In so far as our own problems are concerned, there is no doubt that the most important one is the preservation of the integrity of our country. Being a secular state, the question of defence of one's faith does not play such an important part though perhaps indirectly the defence of the concept of freedom of worship could perhaps play some part in motivating our officers. India is a democratic country and this in itself confers many advantages on the citizens of whom the officer-leader is a part. It follows, therefore, that the preservation of our institutions of democratic freedom will also play a certain part in motivating our military leadership. The protection of our loved ones is a factor which intensely affects each individual and in our opinion, the well-being of one's family does play a very important part in developing leadership qualities. By the same token, however, any feeling of insecurity in respect of the last factor is likely, directly, to detract from the urge that the leader may have to lay down his life in the defence of the other three factors mentioned earlier. It behoves us, therefore, in examining the question of motives in leadership, to give due importance not only to the positive but also to the negative aspect of some of these motivating factors.

## CONCEPT OF LEADERSHIP

Leadership is a mixture of example, persuasion and compulsion. Leadership may be defined as the projection of one's own personality so that the men under your command do what you want them to do even if they are not keen on doing it themselves. A personality of this high calibre must have courage, will-power, initiative and knowledge. If anyone of these is missing, then it becomes difficult for that individual to exercise powers of leadership.

### Courage

Courage is the most important factor in leadership. Courage is both physical and moral. A leader must be in the forefront where the danger is greatest. This courage must not only be momentary but should be sustained over days, weeks and months, whenever and as long as conditions are difficult. When things are going well courage comes of itself to everyone. It is when your command is out of rations, water, ammunition and everything else with which a soldier expects to wage a battle, that the real courage of the leader exhibits itself in leading men on in spite of difficulties. The men will look to every action of the leader under these circumstances. If they find him wanting and lacking in courage, the battle will be lost. The other type of courage, namely, moral courage, is also equally important. The leader must have it in him to deal firmly yet fairly with those under his command when the occasion so warrants it, even though it will not be always clear to the subordinate where he has erred. If a leader compromises on principles, then, however great may be his physical courage, he will not command the respect which is necessary for implicit obedience under difficult circumstances.

### Will-power

The leader has to make the decisions, and what is more important, he has to ensure that the decisions taken by him are implemented. This calls for a tenacity of purpose and the determination to get things done. This quality is particularly important when circumstances are difficult and the implementation of the decision involves the risk of injury or death. In battle, one has to contend with an enemy whose main aim is to overpower you by all means at his disposal. Apart from the enemy, there are those within your own lines who, generally in good faith, are perhaps opposed to a particular line of action which you have decided on. You, having taken a certain decision after taking into account all the pros and cons, and in so doing having considered the view points of those whose views may differ from you, must then have the determination to carry through your project against all opposition. If one is deterred by all the different objections and



difficulties that are raised against any proposed course of action, then, as a leader, one will be a failure.

### **Initiative**

A leader, if he is to succeed in the course of action, must always anticipate what his enemy is likely to do and take measures to prevent the enemy from following his proposed course of action. If one waits for the enemy and then plans a course of action to stop him, one immediately loses the initiative. The initiative having been lost, one has to dance to the enemy's tune. A leader must be thinking many steps ahead not only of the enemy but also of those under his command. In making a decision or formulating a plan, he must visualise the likely developments and take anticipatory action to counter such developments. By the use of initiative one can conserve one's energies and forces, and compel the enemy to disperse his efforts.

### **Knowledge**

Every leader, whatever his level may be, must have the professional knowledge necessary for the execution of his task. This knowledge must be of a standard far higher than that of the men under his command. The men fairly soon know if the appointed leader does not have adequate knowledge. Before a man puts his life implicitly in the hands of his leader, the leader has to build up in the man a feeling that if the leader gives an order or takes a decision, that decision is based on a thorough knowledge of his profession and that, therefore, the chances of success are great and in the implementation of the decision the personal risk to him is reduced to the minimum under the circumstances. In order to be able to inspire your men, apart from professional knowledge, the leader must also have a good knowledge of his men. Some work better with encouragement, others by goading, and still others by sheer force. The wrong method applied to a person will produce unsatisfactory results. This knowledge of one's command cannot be acquired only during office hours. It must, of necessity, come from social contact and close association with one's men in other activities such as games and camps. In brief, the leader must have a sound knowledge of his profession of a standard far higher than those he commands and he must have an intimate knowledge of his men under his command. Having both these he can then make the best of any given situation.

### **Self-sacrifice**

Besides these four qualities there is one other quality which is of great importance and that is self-sacrifice. It is not necessary to repeat the motto put up in the Military Academy, ascribed to Sir Philip Chetwode, except to say that whether it be in battle or outside, the leader's own comfort and welfare must come last, always and everytime. Without this most important attribute, even though you may have the other qualities of leadership in abundance, the men will not follow you.

## MOTIVATION IN THE ARMY

It having been accepted that the need exists for motivation in leadership, the next step to be considered is how best this can be achieved. It is considered that the leader should be made to feel that he has a personal responsibility for the safety and welfare of the people and in insuring the territorial integrity of the country. This has two aspects:

- (a) aspect pertaining to the attitude of the populace towards the defence forces, and
- (b) responsibility of the individual to the trust and responsibility reposed in him.

These two aspects are considered separately in the subsequent paragraphs.

### ATTITUDE OF THE POPULACE TOWARDS THE ARMED FORCES

In regard to the feeling of the people towards the Armed Forces, it is agreed that it is a gradual process of building up a reputation and must of necessity take time. However, the image of the soldier protecting the people must be such that they will look up to him to guard the integrity of the frontiers and the honour of the country. It is for the Government to project this image and to ensure that whether in uniform or outside it, the soldier gets the regard which is due to him in consideration of the unique responsibility which he has to shoulder. Sustained propaganda is necessary to build up this image.

As a first step, it is suggested that the Government should take action to ensure that the problems of day-to-day life which besets the soldier and his family receive sympathetic consideration at the hands of the civil authorities. In this we would include the disposal of cases pending in the Courts and the finalisation of welfare benefits such as pensions to the dependants. The intention is not to ask for any dispensation from any law, but to ensure its equitable application with speed. If this is done as a first step, it will at least make the soldier feel that whilst he is in service, his interest at home will be safeguarded in conformity with the law.

The second step—and this must be a gradual one—will be the grant of special facilities to those who lay down their lives in the defence of the country or sustain injuries which incapacitate them from looking after themselves. Though many offers of help were made during the last crisis, the actual implementation on the ground, we understand, has left much to be desired.

### ACTION WITHIN THE ARMY

In regard to the action to be taken within the Army, this can be divided into two parts viz., action in the basic and advance training institutions such

as the NDA, the IMA and Arm/Service Schools of Instructions and, secondly, action within the units and formations.

Wherever the action is taken, what we consider necessary is to instil in the officer cadre a feeling of dedication to the service to the extent that rather than let the State down, he would lay down his life in the cause. The various factors which can assist in instilling such spirit may be grouped under the following heads:

- (a) A pride in the history and traditions which inspired the great Indian leaders of the past.
- (b) A sense of responsibility amongst the officers towards the men whom they command.
- (c) A firm belief that in the event of his disablement or death, his dependants will be sympathetically and generously looked after in the matters such as pension, children education and career prospects for the children.

#### **Pride in History and Traditions**

India has been invaded many times and we have in turn produced many great leaders who have stood against these invaders. We have also produced many great leaders from various parts of the country who led a major struggle against the central ruling power, e.g., Maharaja Ranjit Singh, Guru Nanak and Shivaji to mention but a few. Of necessity, whilst heroic deeds of those men stir the hearts of certain section of the populace, unfortunately at times it tends to stir their feeling against another section of the sub-continent which today is an integral part of the country. It is, therefore, necessary that in putting across the great deeds of our ancestors, the material must be so produced that it tends to highlight the nobler instinct which inspired these persons. This calls for a skilled study of our history and the production of books which will produce the required psychological effect. Much research will be required and it is considered that this is a matter which affects not only the Armed Forces but the country as a whole. Therefore rightly speaking in propagating such measure within the Army, it will need major assistance from the Government. Working in isolation will not produce the desired results.

Once the necessity for this measure is accepted, then it is for consideration whether the manner of putting across the deeds of our ancestors should be confined to books and study of military history or whether this could be converted into poems and plays for production on the stage for the benefit of all concerned and not necessarily the officers alone.

#### **Sense of Responsibility**

By and large, in the Army the relationship between the officers and men is not solely confined to working hours but is a continuing process. There is, however, a certain difference which has crept in which needs attention. This pertains to the general improvement in the standard of education of

the soldier as compared to his counterpart, say 20 years ago, when previously a soldier implicitly believed what he was told by his officer, it ultimately bred in the officer a feeling of responsibility to play fair by one who reposed so much trust in him. With the gradual narrowing of the social, economic and educational gap between the officer and the soldier, naturally the soldier tends to think for himself to a greater degree. This in turn at times leads to the questioning of the officer's word and authority. Unfortunately at times this is well founded. In addition due to the process of democratization and the spread of the gospel of equality, the officer no longer occupied that position on a pedestal which he did before. The task of the officer therefore in establishing his position of pre-eminence over those whom he commands has become more difficult. This is a basic difference which must be kept in mind when considering ways and means of ensuring implicit obedience which is so necessary in the execution of military orders. One of the ways in which the Government can assist is to see that when a case is referred to them by a responsible military authority, it receives the attention which it did in the past so that the soldier may feel that his officer can, provided the case is just, obtain for him a speedy and equitable solution of his domestic problems. Within the unit it calls for a better understanding by the officer of the mental make up of those whom he commands and a desire to ascertain the genuine difficulties of his men.

#### **Security of Dependants**

It is not unknown in ancient history where mothers and even wives have encouraged their sons or husbands to take up the sword in the defence of the motherland or a specific cause. This was also prevalent in our country. The background under which these conditions existed must, however, be remembered. In some cases, the menfolk were urged to go and fight against an invader because social customs of the latter were extremely repugnant to the inhabitants of the territory being invaded. In some cases, this included abductions or putting to the sword of the population as a whole. The urge to make one's kinsmen go and defend them is, therefore, surely understandable. The practice of self-immolation by the womenfolk was also prevalent. Coming to more recent times, when an individual joined the armed forces, the Government took steps to see that the individual was well rewarded by bestowing honours and giving land which positively bettered the social and financial standing of the individual. In case of death, the dependants were also equally well looked after by the grant of suitable pensions, gift of land and so on. In addition, the joint family system was still in vogue with the result that the widow could always count upon continued sustenance for her and her offsprings under that system.

In modern India, through various steps taken by the Government and a process of evolution based on a western pattern, that social security has



been removed. It is true that the Government is now introducing certain social security measures, but the fact remains that the processes of Government are so slow that the officer has a legitimate doubt in his mind as to what would be the fate of his wife, children or other dependants should he become a casualty. However great may be the fervour of an individual to defend his country, if this basic security of the family is not spontaneous and guaranteed, the officer must, of necessity, have that slight pull which might well influence his decisions and actions. Unless steps are taken, therefore, to build up in the officer cadre a supreme confidence in the intentions of the Government to look after their dependants if they became casualties, we must accept this slight reservation in the attitude of an officer towards his responsibilities.

#### **Steps to be taken in Basic Training Institutions**

In so far as these institutions are concerned, of the three prime requirements mentioned earlier, action can and should be taken in respect of building up pride in our history and traditions and a sense of responsibility towards the men that the individual is likely to command. This, we feel, can be achieved by including in the curricula a study of our history and the inclusion, in extra-curricular activities, such as dramas and recitations of ideals, extolling the sacrifices made by the great men of our country in the fight against invaders or in the preservation of our territorial integrity. Time permitting, visits should also be arranged to places connected with the life of such persons. This, it is felt, will give a more intimate and living touch to the ideas that may have been instilled in the minds of the young.

#### **Action in Advance Training Institutions**

The time spent by officers in such institutions will, of necessity, be limited. The emphasis, quite rightly, will be on other aspects of military training. It is felt, however, that the aspect of responsibility towards the men under one's command can be driven home by an insistence on efficiency in professional knowledge through which it is hoped officers will develop greater self-confidence to shoulder the responsibilities which they bear towards their men. Time and conditions permitting, extra-curricular activities should be encouraged, which will lead to a refresher study of our history and traditions. In the study of military history which may form part of the curricula, every effort should be made to bring in the deeds and actions of the great military leaders of India.

#### **Action within Units and Formations**

The action which we have suggested to be taken in the basic and advanced training institutions should be further progressed on a continuing basis within the unit. This can be done by cultural activities which will benefit not only the officer but the men as well. In order to encourage further study of the steps which might have been touched upon in the initial training of an officer, every encouragement should be given to him to write

essays and articles in regard to the history of the area where the unit might be located with particular reference to the great deeds of the heroes of the area where the unit might be stationed. In order to assist this, units and formations should be encouraged to build up good libraries which can be used for reference in the various activities suggested earlier. Army HQ could also institute a series of competitions for research into the activities of the great Indian military leaders. All this will mean considerable labour and it is felt that if we are to achieve worth-while results, the labour must, of necessity, be put in.

As units are located in various parts of India, it is felt that there is considerable scope for arranging amenity visits to places of historical interest within the locality. This will at the same time bring the officers and the men closer together in a spirit of camaraderie, perhaps even more intimately than in the various functions arranged within the unit. It will also give the men a chance to understand and appreciate the qualities in their leaders which will increase their confidence and thus make implicit obedience of the orders issued by such leaders more spontaneous.

#### **Comaraderie through Training**

Ever since independence, there has been a consistent shortage of officers and every time that deficiency appeared to be eliminated, we were faced with further expansion and a repetition of the old problems all over again. The senior officers, being themselves relatively inexperienced in the discharge of their functions, tended to curb the independence of action of their subordinates. Though this may have been justified under the conditions then prevalent, there is no doubt that this set of circumstances has deprived the juniors of an opportunity of exercising their powers of leadership. To a certain extent, fear of doing a wrong and consequent chastisement has also inhibited junior leaders in their actions. The soldier being relatively more educated as indicated earlier, has not failed to notice this lack of confidence of the senior in his subordinates, and of the junior shirking responsibility has also not gone unnoticed. This in itself has perhaps induced in the men a lack of confidence in the officer cadre to deal with a given situation effectively. All this could have a most serious effect if this lack of confidence persisted in operations.

It is essential, therefore, that in order to breed the confidence of OR and JCOs in the officer class, full trust must be reposed in our junior officers by the seniors and if some mistakes or losses do occur, these ought to be accepted as inevitable in building up the efficiency and character of our leaders. It is equally important to convince the Government of the necessity for adopting such an attitude. It is felt that one of the best ways to engender this feeling of confidence in one's leaders is to allow those leaders a wide latitude in the training and administration of their com-

mands in conformity with a broad directive. It is not necessary at this juncture to go into the minute details of what this involves provided the principle is accepted.

### CONCLUSION

Correct motivation makes an individual take a decision in the performance of his duties, even though he knows full well the risks involved to himself and to those under his command. This calls for a very high standard of leadership. Without dedication, such motivation and development of qualities of leadership is not possible. It is suggested that we should dedicate ourselves to the maintenance of the integrity, freedom and honour of our country, protection of democratic freedoms and, being a secular state, protection of the concept of freedom of worship as well. Leadership is a mixture of example, persuasion and compulsion. A leader must have personality, courage, will-power, initiative and knowledge and last and most important the ability to make sacrifice, without which all other qualities will be of no avail.

As far as the Government is concerned, they must build up in the populace a feeling of pride in the Armed Forces and treat them with the honour that is due to those who are prepared to lay down their lives, if necessary, in the defence of the country. Those that go to battle must feel confident in their minds that should they be disabled or die, the Government will be generous in looking after them or their dependants.

At the primary training institutions, such as the NDA and IMA or its equivalent in the other Services, young cadets should be taught the history of our ancestors, with particular reference to the acts of bravery which they performed. They should further be encouraged to take part in extra curricular activities which would develop their love of adventure and activities involving risks, which will bring out the best in them. They must learn to place service of the country before self.

Within the Army itself, we must continue this process. The relationship between officers and the men they command should be based on a feeling of camaraderie. Loyalty and integrity of character must be emphasised. Only thus can we build up a strong esprit-de-corps. An Army thus officered, trained and educated will be a very valuable force in defending the honour and territorial integrity of our country.

---

*Men who are well trained and fight with dedication and purpose, are worth many times their number, who do not have that dedication and who are not properly motivated.*

LOUIS W. TRUMAN  
Lieut-General



# LUBRICATION IN COLD WEATHER

BY LIEUT.-COLONEL K. K. SHARMA

## INTRODUCTION

SINCE the Chinese attack during October 62 along the northern frontiers of the country, the Army has become increasingly aware of the problems pertaining to maintenance and performance of equipments at high altitudes and low temperatures. The problems, though varying and diverse in nature, can be broadly classified under four broad categories, viz., human, tactical, technical and logistic. The technical problems mainly relate to difficulty in handling, maintenance and poor/erratic performance of equipments with consequent short life span. Proper lubrication of equipments, so vital for increased life and satisfactory performance, presented a gigantic task which has been mostly solved after extensive study of the problems, connected trials and research and development work undertaken by the R&D organisation and the EME.

## EFFECTS OF COLD ON LUBRICATING OILS AND GREASES

VISCOSITY is a measure of the fluidity of any oil, the heavier or less fluid an oil the higher its viscosity. This has a bearing directly to load, speed and operating temperature particularly so in lubrication of bearings, gears and chains where thickness of oil film has a direct impact of effective lubrication.

According to ASTM (American Society of Testing Materials) viscosity is indicated in terms of seconds which is the time required for 60 cc of oil to flow by gravity through a standard orifice at 100°, 130° or 210°F. The viscosity of lubricating oils changes with temperature, the rate of change being inversely proportional to it and is indicated by viscosity index, a figure worked out based on viscosity at 100°, and 210° F. Lower the viscosity index, more rapid will be the change in viscosity with temperature. Paraffin base oils, normally, will have higher viscosity index as compared to naphthanic base oils. Viscosity index additives or improvers when used produce satisfactory results and improve the viscosity index of lubricating oils.

Blending of oils to obtain intermediate viscosity for special purposes is possible but this has to be done carefully to obtain a homogeneous mixture. Straight mineral oils can be blended more completely than oils mixed with additives.

Table 1 indicates effect of temperature on viscosity of different grades of lubricating oils:—



Table 1

SAE Grade	Viscosity, Saybolt		Universal seconds at		
	210°F	100°F	32°F	0°F	-30°F
30 ... ..	66	533	9,350	80,000	8,00,000
20 ... ..	57	352	4,500	28,500	3,00,000
10W-30 ... ..	61	302	2,500	10,500	60,000
10W ... ..	45	165	1,500	7,500	51,800
5W... ..	44	138	1,150	4,600	30,000
10W+10% gasoline ... ..		80	400	1,250	5,600
5W+10% gasoline ... ..		74	330	1,040	4,250

## EFFECTS OF COLD ON PERFORMANCE OF EQUIPMENTS

**General**

Due to increase in viscosity at low temperatures, operation of equipments becomes sluggish. Starting of prime movers presents a problem due to greater frictional resistance and comparatively less effective batteries. The driven machines become stiff due to thickened oil and grease and present greater load on the prime movers. Hydraulic controls become sluggish due to thickening of hydraulic fluids. Lubricant of exposed gears, wires, ropes and metal components becomes brittle and it falls off leaving metal unlubricated and exposed to corrosion and rapid wear. At very low temperatures the metal becomes brittle and tends to give way under load.

Water also finds its way into lubricants and fuels and causes starvation by forming blockage in the systems. Chemical reaction in batteries slows down and they become inefficient and run down quickly. Rubber, especially synthetic and plastic become stiff and are more prone to cracking and faster deterioration in extreme cold. Handling of weapons and equipments causes cold burns.

All these factors tend to result in poor performance, frequent breakdowns, increased wear and cost of maintenance, and finally create pressing logistic support problems which can only be overcome by the use of winter grade lubricants and special care and maintenance of the equipments.

**Vehicles**

At sub-zero temperatures due to increase in the viscosity of lubricating oils and greases, decreased output of the batteries and increased engine friction, cranking of engines for cold starting becomes difficult. Cooling system and fuel lines get choked or blocked by formation of ice.

As regards cold starting, in addition to the cranking speed it is further dependent on various variable factors like the fuel characteristics, ambient

temperature and pressure. At low ambient temperatures, the compression temperature is not enough to cause detonation to the fuel. Lower the temperature greater will be the starting time. The ambient pressure affects density of the air in the region and unless correct fuel to air ratio is maintained the engine will loose power.

The cold starting of an engine is dependent to a large extent on the efficiency of the fuel atomisation/evaporation at low temperatures and necessitates particular attention to satisfactory ignition and combustion. Vapour pressure of the fuel plays vital role in this regard. As the temperature falls, the vapour pressure decreases and the vapour evolution is correspondingly reduced making starting of the engine difficult. The problem can be overcome by using fuels with higher vapour pressure, fitment of special priming device thus increasing the fuel vapour content of the mixture and using some form of heating device to facilitate vaporisation of the fuel.

Another phenomenon which may be encountered at low temperatures is the "carburettor icing". With the evaporation of gasoline in the carburettor, the temperature in the throat of the carburettor, drops by about 60°F. If the temperature of the air entering the carburettor is at 55°F or below, the evaporation of the gasoline drops the temperature in the throat of the carburettor below freezing point, and consequently the moisture in the air condenses and forms into ice. This may not cause any trouble as long as the throttle is large. If the throttle opening is small, as at the idling speed, the space between the throttle and the throat is likely to be sealed by the ice, and flow of the air stopped resulting in stalling of the engine. After little running of the engine, the carburettor temperature rises and the ice melts preventing further formation of ice. The problem is not so alarming at temperatures below 28°F when the air cannot hold enough moisture to form ice deposition.

Following are some of the remedial measures recommended to be adopted to overcome the above difficulties:

- (a) At the end of each run, engine should be stopped by choking while shutting off the ignition. This thins the lubrication of engine walls and leaves a rich fuel mixture in the cylinders.
- (b) Only recommended fuel with greater vapour pressure should be used. Fuel tanks should be kept filled all the time and one oz. of alcohol may be added per gallon of fuel.
- (c) Hand atomizers or ethyl ether bombs should be used to supply rich gaseous charge to the cylinders via air intake or fuel manifold while starting the engines.
- (d) Insulated covers for engine, carburettor, radiator and battery should be used to minimise the ill effects of ambient temperature.

These assemblies could be preheated by using external kerosene or fluorine heaters if needed.

- (e) Auxiliary battery or battery booster should be used to obtain required cranking speed. Auxiliary battery should be kept warm till needed.
- (f) Recommended winter grade oils with correct dilutions should be used. Fuels and lubricants recommended to be used under cold conditions are indicated in table 2. Oils with low pour point should be used as far as possible. It will, however, create difficulty in handling. Regardless of pour point, viscosity of the oil at starting temperature is the deciding factor in the selection of lubricating oils.
- (g) Dilution for cold starting at temperatures below 0°F is an accepted practice but this is to be carried out with care, in right quantity and at the correct temperature. Correct temperature range for dilution varies between 80° and 120°F. Lubricating oils can be diluted by mixing gasoline in certain proportion which is governed by the surrounding temperature. Mixing gasoline at too low a temperature will prevent homogeneous mixture whereas too high a temperature will result in excessive evaporation of the gasoline with consequent cold starting problems. Over-dilution of lubricants will cause rapid wear of the engine.

### DIESEL ENGINES

Most of the points mentioned above for starting petrol engines are equally applicable to the diesels. The diesel fuels contain waxes that can freeze at temperatures below 0°F and consequently do not freely flow through fuel system at low temperatures and may even cause filter clogging. The fuel must have pour point below starting temperature and a high cetane number. Fuels with high cetane number will fire at a lower compression temperature. As the compression temperature under cold is reduced a poor fuel may not fire at all. Following points should be borne in mind while starting diesel engines:

- (a) Cranking speed of 150 rpm may start the engine under normal conditions. In cold, a much higher speed is desirable. This depends on source of power and the oil viscosity. External heat for batteries, cooling system and engine block and preheated lubricating oils will prove useful aids. Direct heat to oil pans should be provided with discretion and not if lubricants are diluted with gasoline.
- (b) The combustion air and the fuel should be preheated.
- (c) For diesels equipped with compression release it will be a good practice to apply the release while shutting down the engine.
- (d) The engines may be run continuously to avoid starting problems. The engines however should not be run at idling speed as this may lead to engine sludge and carbon deposition and result in increased maintenance cost. This draw-back can be overcome by idling the engines at 800-1000 rpm.



Table 2  
LUBRICATION CHART—VEHICLES AND ENGINEER EQUIPMENTS

Srl. No.	Item	0°C and above	0°C to -18°C	-18°C to -30°C	-30°C to -40°C
1.	Fuel for Petrol Engines ...	70 MT Gas	70 MT Gas	80 MT Gas (Z)	80 MT Gas (Z)
2.	Fuel for Diesel Engines ...	Diesel HPP Diesel HPP(W)	Diesel HPP(W)	Diesel HPP(Z)	Diesel HPP(Z)
3.	(a) Engine Crank case ...	...	...	...	10 HD mixed
	(b) Air Cleaner ...	30 HD	10 HD	10 HD mixed with 70 MT gas 5% by volume	with 70 MT gas 10% by volume.
	(c) Fuel Injection Pump ...	...	...	...	...
4.	(a) Gear box ...	Hypoid 90	Hypoid 75	Hypoid 75	Hypoid 75
	(b) Transmission ...	or 50 HD	or 30 HD or Mixture of 2 parts C600 and 1 part Buffer oil by volume.	or Oil M 65 or Mixture of 2 parts C600 and 1 part Buffer oil by volume.	or Oil M65
	(c) Final Drive ...	...	...	...	...
	(d) Axles ...	or C-600	...	...	...
	(e) Steering Gear box ...	...	...	...	...
5.	Oil Can points ...	30 HD	30 HD	Oil M 65	Oil M 65
6.	All Grease points	Grease GS No. 1/No. 3/No. 4 or Grease XG-279	Grease No. 0/Wide Temp. range or Grease XG-279	Grease No. 0/ Wide Temp. range or Grease DG-279	Grease XG-279



### Armaments

Recoil system of armaments are sluggish during initial stages of firing due to thickening of buffer oil with consequent incomplete run out. Elevating and traversing gears work stiff. The defects are, however, overcome by suitably diluting oil mineral hydraulic buffer with white spirit, kerosene and/or oil M700 or using recommended winter grade lubricating oils/greases. Details of lubricants to be used in Armaments are incorporated in EMER(I) AR/A 135 No. 1 Issue 2, of 2 Jan. 57. Substitutes should be used only when specified lubricants are not available.

### Small Arms

Special care in handling, storage and maintenance of Small Arms is to be exercised as these are prone to greater malfunction, stoppage and breakdown in cold if not properly looked after. Following are some of the major problems encountered in the performance or functioning of Small Arms at low and sub-zero temperatures:

- (a) Moisture absorption in the air goes down with temperature. In barracks or populated areas, the moisture content in the air is usually high because of congestion and breathing of inhabitants/occupants. When weapons are brought to such areas, moisture in the surrounding air condenses on the surface and forms as frost or ice at sub-zero temperatures as fog or water droplets at temperatures above 0°C. The moisture gets inside the mechanisms, resulting in mal-functioning and rusting.
- (b) Metal, rubber and plastic parts get brittle and consequently break more frequently especially if weapons are subjected to continued rapid firing. Automatic weapons are more prone to breakage and malfunction if fired rapidly when cold soaked. This enhances maintenance problems.
- (c) The cold soaked ammunition propellant burns slowly and as such reduced pressure is developed in the chamber. This results in short ranging.
- (d) "Springs return" become hard and result in short recoil at the initial stages of firing in self loading/automatic weapons. Consequently the weapons are not loaded as the breech block/bolt does not return fully home.
- (e) The frozen "spring return" in machine-guns recoils more rapidly after firing a few rounds and consequently the rate of fire increases. Since the metal parts are still cold and brittle, such rapid fire is likely to cause frequent breaking of parts.
- (f) Linseed oil congeals in extreme cold climate and makes preservation of wood difficult. Warmed oil, if applied, flakes off as it cools down leaving the wooden parts bare and subject to deterioration.
- (g) Slower burning rate of the propellant in 3.5. in-Rocket Launchers and 106 mm RCL Guns causes unburnt or burning particles thrown back on the crew and results in increased back blast thus

endangering the life of the crew. The rocket launchers have a tendency to shoot low. The crew should be well protected by use of masks and gloves while firing these weapons.

Suitable lubricants for use under different temperatures are shown in Table 3 along with emergency substitutes. Mechanisms should be regularly stripped, cleaned and lubricated in accordance with the Table. Emergency substitutes should be used only when correct lubricants are not available.

TABLE 3

Temperature	Approved lubricant	Emergency Substitute
40°C (40°F and above)	Oil 'A'	Oil, M. 80
Plus 4°C (40°F) to minus 18°C (0°F)	Oil low cold test No. 2 (Cat No. IHA 0520)	Oil, mineral hydraulic buffer.
Minus 18°C (0°F) to minus 40°C (Minus 40°F)	Blend of oil low cold test No. 2 (IHA 0520) and Oil Kerosene superior quality (ASC Supply) in the proportion of 1:1 by volume.	
Minus 40°C (Minus 40°F) to minus 50°C (Minus 58°C)	Blend of oil low cold test No. 2 (IHA 0520) and oil kerosene superior quality (ASC Supply) in the proportion of 2:3 by volume.	

In addition, following precautions should also be taken while carrying out maintenance of Small Arms:

- (a) Moving parts like firing pin, striker and springs should be checked for free movement as these are likely to get jammed and should be manually operated at frequent intervals.
- (b) In water cooled weapons, barrel casings should be filled with water diluted with 30% of glycerine commercial or ethylene glycol treated. The barrel casing should be wrapped with straw, blanket or sacking.
- (c) If oil low cold test No. 2 is not available it is preferable not to use any lubricant rather than to use an oil which might freeze.
- (d) Movement of weapons for maintenance should be restricted to the barest minimum, thus avoiding large variations in temperature. Weapons should be stored in unheated places.
- (e) Handling of weapons with bare hands should be avoided to prevent transfer of moisture and cold burns.
- (f) Weapons should be fired at single shot till they warm up to regulate recoil in case of automatic weapons and to minimise breakdowns, malfunctions or stoppages in others.

- (g) The ammunition should be kept in bandoliers, bags or pockets of soldiers to prevent ingress of moisture.
- (h) Raw linseed oil should be used on wood work once in 3 months. It should be heated before use and thoroughly rubbed for half an hour for proper absorption. The superfluous oil should be wiped off.

### Batteries

Battery is a small chemical plant. Chemical reactions take place more slowly at low than at high temperatures and hence a cold battery gives low output. Compared with 100% output at 80°F, a battery may give only 40% output at 0°F. Since a cold engine may require 2-3 times the starting torque at 80°F it is imperative that the cold battery may fail to crank the engine. These figures are for a fully charged battery and hence the position will be even worse in case of run down batteries.

In view of the above it may be noted that good maintenance of batteries is necessary at low and sub-zero temperatures to ensure their serviceability. The batteries should be removed from vehicles on completion of duty to a warm place and reinstalled when needed. Suitable insulated covers should be provided to keep the batteries warm. Battery charging which is reverse to discharge process, is also retarded by cold. This may be of great importance where engines are to be frequently started and stopped.

### LUBRICATING GREASES

Problems of operating machinery at low temperatures are manifold and involve other factors besides starting. Gear lubricants, chassis and wheel bearing grease, hydraulic control fluids also thicken so as to resist motion or operation and may possibly stall an engine or drive. Suitable winter grade greases or hydraulic fluids should be used to ensure satisfactory performance of equipments. The importance of choosing the right type of grease is apparent from the NLGI penetration figures for different grades at low temperatures. Table 4 shows effect of cold on various types of greases.

Table 4  
EFFECT OF LOW TEMPERATURE ON GREASES

GREASE	NLGI Grade	Temperature 0°F					
		77	32	0	-25	-40	-50
Sodium Base—SAE 70 Oil	— Semi-fluid	420	200	142	39	—	—
Lithium Base—SAE 50 Oil	0	371	349	196	101	62	—
Lime Base—SAE 20 Oil ...	0	359	330	280	226	204	181
Sodium Base—SAE 70 Oil	1	326	302	187	55	21	—
Lithium Base—Very light oil	1	320	269	243	224	206	—
Lithium Base—SAE 30 Oil	2	294	251	200	149	107	—
MIL-G-7118 Type Grease ...	2	293	277	245	210	164	151
Lime Base—SAE 20 Oil ...	2	288	252	199	188	151	—
MIL-G-10924 Type Grease	2	287	271	222	218	174	165
Lithium Base—SAE 50 Oil	2	278	248	151	86	51	—



It will be noted that a grease which is semi-fluid at 77°C can act as No. 5 grease at -25°F whereas a number 2 grease at 77°F may go down in consistency to a figure varying between grease No. 3 and 4 at -25°F. Penetration ranges for various grades of greases are summarised below:

NLGI Grease Grades						Penetration
000	..	...	...	...	...	445 — 475
00	...	...	...	...	...	400 — 430
0	...	...	...	...	...	355 — 385
1	...	...	...	...	...	310 — 340
2	...	...	...	...	...	265 — 295
3	...	...	...	...	...	220 — 250
4	...	...	...	...	...	175 — 205
5	...	...	...	...	...	130 — 160
6	...	...	...	...	...	85 — 115

The vast variation in consistency range is caused by the element of oil present in the grease. Heavier the oil, more pronounced will be the effect of cold on the consistency and penetration of the grease.

Under sub-zero conditions it may be common to see a vehicle being towed for starting purpose, with the tyres skidding due to seized bearings. Such conditions can be created either due to the use of wrong greases or presence of water in them. Wire, ropes, chains, belts and bearings are likely to get stiff presenting much greater load on the prime movers or the drive. The choice of lubricant will depend on different factors like frequency of operation, load, starting and operating temperatures, duration of shut downs size and speed of operating part and exposure. Heavy and slow moving bearings and gears will require heavier lubricants even at low temperatures. In exposed mechanisms, lubrication should be regular and frequent to prevent ingress of dust and water and lastly the lubrication task must be regularly carried out under strict and efficient supervision.

### RUST AND CORROSION

Sub-zero temperatures mixed with rain and snow promote rusting. The problem though not unique, is more likely to be overlooked especially under extreme cold conditions. Regular maintenance and lubrication and use of correct lubricants with anti-rust inhibitors will be a sound remedial measure in this regard.

### STORAGE

The lubricants and lubricating implements should be properly stored to prevent ingress of dust and moisture. Lubricant already frozen up results in poor application. The dilution of oil should be carried out neatly under proper supervision and warm conditions. Dilution of oil



with gasoline should be carried out away from open fire or sparks. If heated buildings are not available insulated covers may be provided for oil containers failing which these may be directly heated by kerosene or fluorine heaters. Containers should be stored on low racks or boards, above ground level and on their sides or upside down to prevent access or breathing in of water or moisture.

### CONCLUSION

The means employed to achieve trouble free performance of equipments under cold climatic conditions will ensure "preparedness" or "battle worthiness" of the Army. Mere knowledge of problems and their solutions will not serve any useful purpose. Precautionary measures should be taken and protection against cold provided well in advance of the onset of cold season. Special provisioning of winter grade lubricants, heating implements, storage facilities and personnel clothing will have to be arranged. Regular maintenance under efficient and strict supervision will go a long way in overcoming the various problems already discussed. However, some of the points which are vital for satisfactory performance of equipments can be summarised as follows:

- (a) Use of recommended lubricants before onset of cold weather and controlled dilution under strict supervision.
- (b) Proper storage of lubricants, ammunition, weapons and equipments to prevent ingress of moisture.
- (c) Use of heated buildings or external heating implements or insulated covers for keeping warm the fuels, lubricants, cooling system, batteries, engine blocks, sumps, weapons, ammunition and equipments.

If the equipment is well maintained and personal comforts of operators are well looked after, the battle against weather is practically won and the mobility and battle worthiness of the Army ensured.

---

# NANDA DEVI EXPEDITION\*

BY MAJOR N. KUMAR

NANDA DEVI is, at present, the highest mountain in India—I have used the word 'at present', because K2 which is higher than Nanda Devi, is in Pakistan-occupied Kashmir.

According to one of the stories, Nanda was name of the daughter of the Kumaon King, whose hand was demanded in marriage by a Rohilla prince. He was refused and a war followed. The decisive battle took place near Ranikhet. The Kumaon King lost and Nanda fled, taking refuge on top of Nanda Devi. Nanda Ghunti, it is said, is the halting place of Nanda before she got to the top of Nanda Devi, and Nanda Kot, fort like peak on the West is supposed to be stronghold of Nanda.

According to another myth, Lord Shiva married the daughter of Himachal at Pithoragarh and Parvati (Lord Shiva's wife) is enshrined in Nanda Devi.

Nanda Devi, 25,645 feet high, lies about 40 miles North of Ranikhet. This forms the centre piece of the central Himalayas, the most beautiful panorama of snows scenes seen from Ranikhet, Almora, Nainital and many other places. A 70 miles long horse shoe barrier with more than 18 peaks higher than 21,000 feet, guards the approaches to the basin of Nanda Devi, more popularly referred to as Nanda Devi Sanctuary. The important peaks on this barrier are Nanda Devi East, Trisul and Dunagiri.

This white curtain never falls below 17,000 feet except on the West where Rishi Ganga drains the waters of this basin. This small mountain tributary of Ganges carves for itself one of the terrific and most difficult gorges in the world. This is the only approach to Nanda Devi basin or Sanctuary and this too is barred by two curtain ridges.

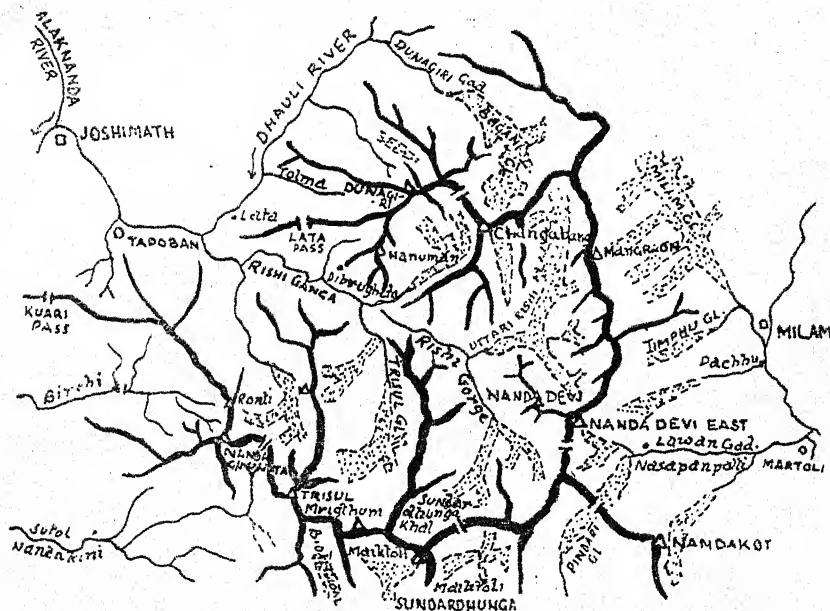
The efforts to penetrate the Sanctuary by men started as back as 1882 when Dr. Graham with two Swiss guides came to force his way through Rishi Ganga. In 1905, Dr. Songstaff tried to force the way through the white curtain from the Milam valley side. He succeeded in reaching the crest of the wall just below Nanda Devi East. He was the first to have a look into Nanda Devi basin. The depression he reached is known as Longstaff Col. Incidentally Nanda Devi East was later climbed from this col. In 1926, Rutledge led an expedition to Nanda Devi and tried to force the way through Sundar Dunga pass from South, but could not break through the white curtain.

---

\* A talk given under the auspices of the USI of India on Thursday, 17th September, 1964.

It was only after grim struggle of 50 years when Goddess Nanda Devi opened her shrine to human beings. In 1934, Tilman and Eric Shipton succeeded in penetrating the Rishi gorge to the foot of Nanda Devi.

In 1936, the top ranking climbers of Britain and America got together to attempt Kanchenjunga in Sikkim. They were not permitted to climb Kanchenjunga; so they decided to attempt Nanda Devi. These men made history in climbing Nanda Devi. It was most fantastic climb of the times. Tilman and Odell got to the top.



### *The Nanda Devi Sanctuary and its approaches.*

In 1951, French came to Nanda Devi. Their plan was to climb Nanda Devi, traverse the two-mile rampart of ice, snow and stone to Nanda Devi East and return via Longstaff col. Tenzing with some other members was sent to Longstaff col to receive these climbers. Rojer Douplat and Vignes volunteered for this suicidal mission. They were last seen above Camp III. It will remain a mystery whether they climbed it or not. Nothing is known about them. To search for these climbers, Tenzing Norgay and one more member made the record time ascent of Nanda Devi East from Longstaff col. Though it was not the first ascent of Nanda Devi East, it still remains as a memorable feat of mountaineering.

Nandu Jayal took up the challenge from Indian side. In 1957 he lead a team to Nanda Devi. Unfortunately due to very bad weather conditions, he had to give up the attempt only 500 feet short of the summit. We all were very disappointed because Nanda Devi was Nandu's mountain. He



used to say that if there is anything like an ultimate mountain, it is Nanda Devi.

In 1961, Gurdial and Major John Dias attempted this mountain. They were very much handicapped due to shortage of porters and extreme bad weather, and had to return from 20,000 feet.

In 1964, three expeditions were organised with the aim of training some mountaineers for Everest 1965. Nanda Devi was one of them.

Nanda Devi has some peculiar problems which make the mountain so formidable. These are:

- (a) This mountain has the longest approach march from the civilisation in the world. 10 days going if weather is good and sometimes it takes as much as 21 days. Even if we take average of 20 days going and coming, it means that the porters who eat one seer plus every day have to be self-sufficient for 20 days and maximum a porter can carry is about 60 lbs. The net weight a porter carries for the expedition to the base camp is not more than 12 lbs.
- (b) It is the most difficult approach march in the Himalayas. Porters are not very willing to accompany the mountaineers into the Sanctuary, especially when they can earn the same wages in working next to their houses.
- (c) To reach this mountain—as already mentioned we have to cross two curtain ridges which cannot be penetrated unless the winter snows have melted sufficiently. This means that one cannot reach the base camp as early as one wants. In fact the earliest one can get there is in the last week of May and by 15th of June the monsoon breaks in this area. This gives only three to four weeks to climb the mountain.
- (d) The mountain is reasonably high and rush tactics which can be applied on small mountains, cannot be employed on this mountain. And yet there is not enough time to acclimatise. Therefore, the mountaineers who go to this mountain must acclimatise fast; otherwise they have no chance of success.

### PREPARATIONS

The most arduous stage in any expedition is the preparatory and planning stage. You have to think of everything. One mistake—for example, forgetting the stove cleaning pins, can ruin all the chances of success. There is a saying that in the Himalayas, one cannot make a mistake twice and it goes for planning too.

The large number of porters which we required would have been impossible to get. So it was decided to lift most of the stores into the Sanctuary with the help of helicopters. The Alluets operated from Joshimath. The loads carried in one sorti varied from 300 lbs to 500 lbs.



To safeguard against starvation in case of the helicopter lift not materialising, a rear dump was established half way to Base camp with the help of goats. If going is good, these are better substitutes for porters, as they like porters, do not consume most of the load they carry. At the end, they also serve as meat on hoof if required.

We also took with us wireless transmitters and a signal officer. This had been necessitated to keep in touch with the land party who were sent to select and make a suitable helipad in the sanctuary. To safeguard against the failure of wireless sets, we arranged relay messengers system by which the messenger could reach Joshimath from Base camp in three days. We also made use of wireless to send the actual weather conditions prevailing in the area to the meteorological department in Delhi, which helped them in giving us accurate daily forecasts. Believe it or not—the weather forecast more often was correct, than not.

For communications between the Base camp and the higher camps, we took wireless sets with us, but these let us down very badly as they did not function beyond Camp II.

#### APPROACH MARCH

Our party left Dehra Dun on May 6 and reached Joshimath on May 8. The same evening we reached Lata village 18 miles ahead.

I had visited this area as late as 1961 and it had taken me two days to cover the journey which took me two hours only. An amazing work of road building has been done by the DGBR. Places where we had to unload the mules to get them through now 5 tonner were plying. At last the most beautiful part of Himalayas has become more accessible.

On 9th we were able to push forward half of the party with whatever porters were available. The first party carried only two days reserve rations.

The first difficulty arose when the party encountered Dhurshi cliffs of wild and sheer rocks. They were still covered with snow and porters were frightened to death. At very difficult portions, members used to carry the porters loads. Even then the party was forced to leave all the loads in the cliffs and rush to safety of Dharansi grazing alps. The loads were retrieved the next day. It was here when one of the porters of second party slipped and fell 300 feet. Luckily whenever he bounced, he bounced with the load to the ground. Miraculously his fall was arrested on a rock ledge. He was not seriously hurt but badly shaken. Seeing him fall six porters just dumped their loads and ran back to civilisation leaving their two days wages. We were to save wages of some more porters, who deserted us en route.

Party made a great break through the snow covered sheer a smooth canyon of Rishi Ganga.

The first party reached sanctuary on 18th. This was the fastest entry ever made into the inner sanctuary except for mine which was made in 15 minutes in a helicopter.

On 21st morning, the helicopter landed at Joshimath. I was to guide them to the Sanctuary. I had not the foggiest idea as to how the Sanctuary looked. To be honest, I was very much afraid lest I took them to some wrong valley. The moment I stepped in the helicopter, I was taken aback—both the pilots were in their pyjama suit. Fearing that we may not start on the wrong foot, I kept my mouth shut. What had actually happened was that a hail storm, had uprooted the pilot's tents and all their belongings had been blown off. It was lucky for them that they were wearing their sleeping suits.

The jet helicopter took off and once we were above the Rishi Ganga, we were in the world of exquisite beauty. All around us was a distant and dazzling wall of whiteness from where the peaks rose in the thin air. We were privileged to see one of the grandest mountain views in the world, a scene which has left so deep an impression that I will never forget it. We saw Bethartoli, Nanda Ghunti, Trishul, Dunagiri, Changabang and many unnamed peaks on left and right. Right in front of us Nanda Devi, queen of them all, held aloft her proud shapely head, her slender shoulders draped with snow-white braid. I was lost in dreamland, when Chatterjee nudged me asking where now? I looked forward and the eastern end of white wall was closing on us very fast. And down below, I saw the greenland—what else it could be if not the sanctuary. Soon we spotted the smoke candle. The helicopter made a christiana and landed. We were in the Sanctuary. It is hard for anyone who has not studied this phenomenon at close quarters to form an adequate conception of gigantic rampart in places over 23,000 feet, enclosing a bit of a country consisting of grass and Bharrals (wild goats). This is 'The Sanctuary'.

For the next two days, helicopters went up and down and carried all the stores. The stocking finished on 23 May, and on 24 May the Base camp was occupied.

It is a good thing to acclimatise before climbing high mountains. But I am of the opinion that this acclimatisation should be done on the mountain itself so that in the process of acclimatisation, you are also softening the mountain. Any how, this mountain does not give you any time for acclimatisation.

On 25th, the attempt was made to establish Camp I, but the party was caught in a blizzard and was stranded for four hours. Camp I was estab-

lished the next day. It was at Base camp when we heard the news of the sad demise of our late Prime Minister. We started our climbing with mourning. Throughout our stay at the base camp it was mournful atmosphere. Around us were the memorials of those who had given their lives on the mountain earlier. It was here, that one of the members, dreamt that Nanda Devi will claim one more life. Unfortunately his dream did come true.

Camp III was established at the height of 21,000 feet on 6 June. But the prospects of our success became dim when only three sherpas were available to carry the loads beyond Camp I. The others suffered from high altitude sickness. I tried porters, but they also became sick when they slept at Camp I. In desperation, I tried the relay system. Some porters used to carry loads from Base to Camp I—the stronger ones used to go empty handed to Camp I, lift the loads dumped there, and then return to Base camp. To everybody's surprise, this system worked. The porters were also happy because they could sleep at Base camp. In later stages, the porters used to go from Base camp (16,000 feet) to Camp III (21,000 feet) in one day, a most fantastic and unmatched achievement. We owe our success to them. Everyone else did what was expected of him. But the porters did what no one could even dream off. By 9th June, Camp IV was established by Capt. Bhaghuna and Gombu. This was the last camp of Maj. Jayal's expedition, remains of which were still there. The plan was to ferry the loads on 10th and 11th, establish Camp V on 12th and attempt the peak on 13th. But weather God had planned something else. The weather became extremely bad and the climbers had to return to Base camp for safety. One of the ropes, led by the Deputy leader, was caught in terrible blizzard, while they were still on dangerous portions of the thin ridge, Mr. Gairola was once literally lifted by a strong gust of wind and was heading for depth below, when his fall was stopped by Vohra. The ridge became so dangerous that this party was forced to remove their goggles to see better. It was a question of saving their lives or eyes. They chose the former. All of them were snow-blinded when they reached the Base camp.

June the 13th—originally the D-Day, was the most depressing day. The weather was horrible. More than half the team was sick and unfit. Capt. Bhaghuna had developed a blind spot in his right eye and doctor said no more climbing for him. Two members and two sherpas were confined to their tents due to snow blindness. Two sherpas and six porters were down with acute chest pain. Two of them so serious, that they had to be taken to lower altitude. To further lower the morale of the team, we heard the news that Nanda Devi East has been abandoned. Not that they could have helped us, but the confidence you get from the feeling that you are not alone going through this misery was no more there. Though there was no parallel with Nanda Devi East, they had been having much worst



weather than us. But I was quite sure that even in the thickest of monsoons, we were bound to have a few days clear and I wanted only 4 days. We started preparing for the long siege. We ordered the stores to be moved up from the rear dump for the long wait.

We did not have to wait long. The weather cleared on 16th June and the support party which was to ferry the loads for the summit party was rushed up to Camp 4. In addition to carrying loads for the summit party, the support party was also given the task of reopening the route which had been obliterated by continuous snow-fall of last one week. On 17th, the summit party left the Base camp for Camp 4 which was reached on 18th. On 19th, Camp 5 was established at a height of 24,500 ft., the highest camp established on the mountain. It was higher than Nanda Devi East. On 20th,—the 'D' Day—Vohra, Gombu and Dawa Norbu left Camp 5 for summit. About 500 ft. short of summit, Vohra, who was a little slower than the others, thought that he may jeopardise the chances of success of the other two, decided to fall out of the summit rope. This idea came to him from the knowledge that Tilman and Odell, the only two who had ever climbed the peak had taken 9 hours from their last camp. Vohra dropped out at the place from where Major Jayal had returned in 1957. The summit was reached at 11.30 hours—only 4 hours from Camp 5. Evidently our last Camp was much higher than that of Tilman and Odell. The summit is about 300 ft. long and 200 ft. wide. Gombu and Nawang hoisted a tricolour and after having taken a few photographs, returned to Camp 3. C.P. Vohra stayed on at Camp 4, in vain, for another day to make another attempt. On 22nd, I suggested to the Indian Mountaineering Foundation to have an aerial photograph which was taken on 23rd June. I did this to avoid any controversy later on. On Nilkanta Expedition the claim of 3 summiters was doubted. Ultimately a Court of Enquiry was ordered. Though the verdict of the Court of Enquiry was in favour of the people who climbed the peak, the whole thing left a very bad taste.

On 24th June, the party left Base Camp exactly after a month of its occupation. Capt. B. P. Singh's party had left a day earlier to attempt the virgin peak of Devisthan II (21,400 ft. high). Capt. B. P. Singh's party climbed this virgin peak in most spectacular manner. They not only completed the ascent of 6,000 ft. (from 15,500 ft. to 21,400 ft.) in one day but joined us 3 miles down the same very day. To my mind, this achievement is only next to Dr. Longstaff's historic climb of Trisul peak in one day.

It is said that no expedition is successful unless it can bring back all its members, sherpas and porters safely home. Most unfortunately in this respect, we were unsuccessful and one of our sherpas died at Dibrugheta while he was being carried on a porter's back for evacuation by helicopter.



Dibrugheta is one of the most pretty places on the approach march and has been referred to as horizontal oasis in a verticular desert but due to circumstances, it has already seen two persons cremated near the stream which provides water to this beautiful pasture land of the Nanda Devi Sanctuary.

We returned to the civilisation on 1st of August but every step homeward reminded us that we had left some one behind—a brave, a very brave sherpa.

**JOIN**



**UNITED SERVICE INSTITUTION  
OF INDIA**

(Founded 1870)

*For the Furtherance of*

**INTEREST AND KNOWLEDGE IN THE ART, SCIENCE  
AND LITERATURE OF THE DEFENCE SERVICES**

*For the particulars write to:*

**Secretary, U.S.I.  
KASHMIR HOUSE,  
NEW DELHI**

# ADPS AND A SUGGESTED APPLICATION TO ORDNANCE SERVICE

BY COLONEL H. S. BAINS, Vt. C.

## INTRODUCTION

THOSE of us who had the experience of planning for provisioning and supply at Army Headquarters will testify to the unreliability of the statistical information and the long period required for processing even simple figures such as all India holding of major items. The Army Statistical Organisation (ASO) which compiles information from unit reports and returns by means of a punched card Hollerith system is overworked because of too many manual operations inherent in that system. Thus staff directorates at Army Headquarters concerned with matters such as releases, issues and provisioning of stores and equipment have not been able to do any advance planning for want of timely information. This was particularly evident during the last emergency when as a result of an unprecedented rise in wastages, unit demands from operational areas could not be met due to lack of correct up-to-date information on depot stocks. If we are to avoid a similar situation in the future, we must examine our system of supply along with the information system to ensure that adequate stores are provisioned and stocked suitably so that they reach the correct destination in the shortest possible time.

This points towards the need for introducing some system of automatic data processing to cut out delays imposed by the human factor. A perusal of this paper will show that by a judicious application of the electronic computer which is basic tool of automatic data processing system (ADPS) we can speed up the working of the supply and administrative services. Adoption of ADPS will also obviate the necessity of large stock piles of stores in forward areas as timely replenishment from base depots with smooth flow through supply organisations will be possible. Similarly in certain other areas of military application (such as for battle-field surveillance) ADPS offers some unique opportunities as it can process and store information and present it to the Commander in a variety of usable forms.

In order to identify such areas of application and to devise a logical and systematic approach to the adoption of these extremely complex and expensive machines, it is important to acquire a broad-based knowledge of modern computers and their capabilities and limitations. It shall then be possible to examine the inter-relationship of processed information and the system of control which implies command, management and administration in any organisation. This paper, therefore, divides itself into two parts, the first part dealing with the ADPS and its capabilities followed by part II which deals with a specific application of ADPS in improving the system of supply of ordnance stores.

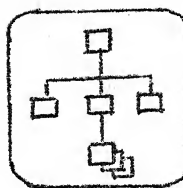
## PART I—ADPS—ELECTRONIC COMPUTOR AND ASSOCIATED EQUIPMENT

**D**UE to the shortage of manpower and the increased level of wages in the industrialised countries of the West, the need for automation in industry has been felt all along. This became particularly urgent after World War II, when manufacturers grouped themselves into corporate bodies which started competing with each other in a fastly developing manufacturing industry. Big firms such as automobile makers could not hope to remain in the market unless production, accounting and sales services were closely integrated on scientific lines and fed with the latest information required for decision making in their respective spheres of activities. The first step in feeding up-to-date information to the top management was taken by the introduction of the punched card system. A large volume of information could be punched manually and stored on these cards in appropriate form for subsequent reference. The updating of cards in the case of daily changing market situation was however laborious and time consuming. To speed up the process the analogue computer which worked on the principle of representing arithmetical quantity by electrical quantities such as voltages or currents was introduced. This system although automatic suffers from the disadvantage of being able to handle only a limited volume of information. The modern computer or the digital computer as we know it today was produced commercially about twelve years ago but the development in the field particularly since the advent of the transistor has been so phenomenal that we are now having the third generation of these computers.

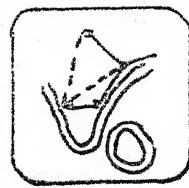
A digital computer deals with binary digits, i.e. 0 and 1 as opposed to the decimal system which has 10 digits. In binary algebra  $1+1$  becomes 10 (digit 1 being a carry over from the right hand column after adding). Thus 10 is 2, 11 is 3 and 100 is equivalent to 4. Hence all numbers consist of only two digits i.e. 0 and 1. This has a remarkable feature in that the 'zero' and 'one' of the binary digits can be represented by 'off' and 'on' conditions of an electric circuit. The circuit can then be built to directly indicate the state of each binary digit in any arithmetical operation such as addition, multiplication etc. The answer can be 'read off' directly as a binary number. Alternatively it can be 'fed' for any subsequent operation with another number. The final result of any sequence of operation (called programme in computer language) can either be punched on a card, recorded on a magnetic device or displayed on a screen. Also it could be used to give an output in the form of a printed document. Some of the computer displays are given on the next page. Similarly many other types of information such as engineering drawings, alphabetical lists and movement progress charts can be directly viewed on a display device.

Depart	Arrive
1040	1700
1430	1815
1530	2000

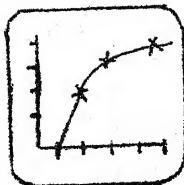
Could represent convoy schedules (Only relevant portion screened)



Family tree of an organisation such as a unit on a brick system of establishment



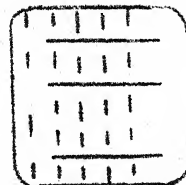
A map showing telegraph, telephone and road alignment.



A graph



Photos—result of an air strike.



Ledger page.

The military authorities in the USA were quick to grasp the potentialities of ADPS and a family of electronic computers are already in service in the US armed forces. In the combat zone the input from various sensory devices such as radar, infra red and air photo-recce is fed into a mobile computer which processes this information into usable form. The processed information can then be displayed or printed for the commander's decision. In order to feed the information into the computer and to give the commander output means to transmit decisions to his subordinates, a reliable and fast system of signal communication is essential.

The mobile computers now in use in the American army are capable of solving unbelievable types of problems. This capability stems from the digital computers basic property of systemising data by a sequence of arithmetical operations and logical comparison of two or more quantities. This logical comparison enables the computer to pick out the best course of action based on this quantitative analysis. The full scope of the exploitation of this decision making capability both in the field of combat computation and logistic data processing is still being assessed. Similarly in industry the great leap forward in the design of computers and a corresponding advance in the science of management is opening new vistas in automation cutting out delays and errors inherent in a manually controlled system. All that the human brain is left to do is to make a qualitative selective analysis of the various alternatives suggested by the computer.

A digital computer whether designed for industry or for field army use consists basically of three units:—

- (a) The major unit is the 'memory' or storage unit. 'Memory' consists of an internal memory (which is alphabetical and numerical)



information available for immediate use either as an 'output' or for further processing) and the less frequently used data which is stored in external files. The data is either stored on punched cards or on magnetic devices such as magnetic tapes. The filing of information can either be done sequentially or by the help of a recent method called 'random access' in which case reference to any stored data can be made in a very short time indeed.

- (b) The second portion of the computer is the arithmetic unit which processes information by the 'operations' of addition, subtraction, multiplication and division as mentioned earlier. This unit can make a quantitative selection whether one number is greater than, equal to or less than another. It can also compare two items consisting of a set of letters and numbers (alpha-numeric items) whether they are 'similar' or 'dissimilar'. The degree of difference is however not within the capability of the machine and requires human judgment.
- (c) The third part of the computer is the 'control'. This as the name implies controls the other two units. The control does not think by itself but follows the steps visualised by the human programmer. Once programmed, human attention is unnecessary but provision can be made for human interference when the machine indicates a need for it.

The next requirement of ADPS is the input device. These can be either punched cards, punched tapes or magnetic tapes. The cards and punched tapes are read by electric means but the speed is relatively slow. Magnetic tape offers very much faster speeds and the information can be erased and tape re-used as in a normal tape recorder. The latest development in this is the optical scanning by which a scanner head working on the principal of stroke recognition (each digit and letter of alphabet can be broken into straight, sloping or curving strokes) can identify each letter/digit electronically. Thus information from a document can be visually extracted at a much faster speed and the delay imposed by the transfer of information from a printed document to a punched card or tape before feeding it to the computer is eliminated.

Corresponding to the 'input' is the 'output' unit. The purpose of this device is to read the information and to display it either on a printed or a punched card or displayed on a cathode ray tube device illustrated earlier. The mechanical printing speed as compared to the computer speed is however slow. A new technique of printing by magnetic ink to give a correspondingly high speed is being developed. Similarly dry paper now being used for recording enables a number of copies being made very quickly without the use of carbon paper.

The last but not the least important part of the ADPS is the communication network. It is obvious that speed achieved in processing new information can be exploited only if the flow of information to and from

the computer, between various components of an ADPS and its output is transmitted in time and with a great degree of accuracy. The speed of transmission with punched devices corresponds to that of a teleprinter i.e. about 100 words per minute. This when compared to the computer speed is very slow and there is a definite need for either magnetic tape to tape or facsimile transmission. These systems in turn require very high grade, trouble free circuits, but speeds of thousands of characters per second are possible.

It is therefore, evident that the speeds of transmission of a large volume of input and output information particularly in an under-developed country such as ours will present the major problem in adapting ADPS. Also the programming and the maintenance of a highly complex computer installation will require a very high degree of skill on the part of operating and servicing personnel. An ADPS technician requires a broad based educational background with mathematical orientation. In addition he must have some knowledge of accounting, statistics, economics and telecommunications. Without such a wide base he cannot hope to acquire an intimate knowledge of the capabilities of a computer.

Another danger in the ADPS lies in the haphazard development of computers without a corresponding development in the science of overall management. The modern management technique is based on a 'system' concept. The 'system' evolved as a result of operational research aims generally to complete a job in the most efficient manner possible, at a minimum cost and in the shortest time. The refinement of any 'system' is a continuous and an evolutionary process and for optimum yield a careful integration of management set up and information flow is very essential. In any case it will be a great mistake on our part if we yield to the pressure of salesmanship by computer manufacturers and adopt a particular system without first analysing our management needs. Added to this is the risk of obsolescence of equipment because of a fastly developing computer technology which necessitates our adoption of a particular system keeping in view our long term goals. One way to get over this difficulty is to acquire equipment on a rental basis rather than by outright purchase. Furthermore the equipment acquired must be of a standard make because the various manufacturers have not standardised either with regard to equipments or in terms of computer 'language' (Efforts are now being made to evolve a 'machine independent' computer language).

Another factor to consider is the cost; both the initial outlay and recurring. In view of the technological backwardness of our electronic industry manufacture of computers indigenously is not feasible for a number of years to come. As such these are to be imported or at the most assembled indigenously under a licence agreement. In either case a substantial quota of foreign exchange will be required. Our approach to

the problem must therefore be very guarded. There is certainly no justification for a wholesale rejection of our existing Hollerith system in favour of the ADPS. Even in America, when the speed of processing information is relatively unimportant, the punched card systems are very much in use.

An effort will now be made to analyse the problem of ADPS adoption to a particular service requirement where it is considered that the computer processing will yield maximum result in the shortest possible time. This is the case of the supply of ordnance stores in the Army. The approach is representative, basic principles being identical and is suitable for other fields of ADPS application.

## PART II—ADPS APPLICATION TO THE ORDNANCE SERVICES

The role of AOC is to provision, stock and issue stores of ordnance origin to the users in the shortest possible time on receipt of demands. A brief mention of the ordnance procedures to carry out the above function will be useful to understand the problem in hand.

The ordnance stores are normally divided into two categories. These are the major stores called the Class A stores and the minor items called the Class B stores. The Class A stores are normally released for issue by the general staff at all levels whereas the Class B stores are uncontrolled. As such the procedure for issues of uncontrolled stores differs from that for controlled stores. Similarly the provisioning for the Class A and other controlled stores is the responsibility of the staff at Army HQ, whereas the Class B stores are normally provisioned directly by the depots concerned in accordance with a laid down policy. This decentralisation in the provisioning of the Class B stores reduces the time lag in their demand and supply.

A unit demands the Class B stores on indents placed on the depot on which it is dependent to the extent of deficiencies against its authorisation table (PET/WET). These are met by the depots subject to the availability of stock and the correct identification of the stores on demand. These issues then form the basis of provisioning i.e., a fixed number multiplying the monthly issues called Monthly Maintenance figure (MMF) is always kept as a maintenance reserve in the depots. Thus for an item such as a torch cell, the ordnance may be stocking upto 12 MMFs. Normally the longer the time interval between the orders and the materialisation of stores on order, the larger the number of MMFs kept as maintenance reserve. Besides these maintenance stocks, a certain amount of organisational reserves such as the General Staff reserves are always kept in ready stock. Periodic provision review of Class B stores within the depots reveal the provision deficiencies, which are checked and verified by the associated finance



representatives. The supply orders are then placed on the DGS & D or even in some cases directly on the trade. In case the total financial effect of a particular order exceeds the depot commanders powers, the case is submitted to the Ordnance Directorate at Army HQ for processing it with the Ministry of Finance (Defence).

When we consider that there may be something like a million items of Class B stores, the practicability of carrying out timely provision reviews manually can well be imagined. Fortunately we have been living off the fat of World War II accumulations of huge quantities of Class B stores and the provision reviews are only necessary in the case of a few scarce and fast moving items. This problem is, however, going to assume unmanageable proportion unless the system of provisioning is automated and made self regulating when new generation of army equipment and associated Class B ancillaries replace the existing war time equipment.

Even now one often hears that an item demanded is invariably not available 'NA' or not in vocab 'NIV'. When viewed in the context of such a large variety of stores all manually accounted and unscientifically stocked, the criticism levelled at the ordnance service is seemingly unjustified. This position will progressively worsen with the newer equipments which are more complex than their counterparts in the service today.

Going back to the Class A stores, in view of their importance and high cost, the procedure for their supply to the users and provisioning is quite different. Units indicate their deficiencies on a statistical return which is then processed by the army statistical organisation (ASO) who indicates the All India holdings of each type of Class A stores against the total authorisation excluding reserves. Based on these figures the Ordnance Directorate in conformity with the general staff policy effects issues to the deficient units through intermediate formation of HQs and also calculates the overall deficiencies against the total liability of each item. This provision review is normally carried out annually because of the immense volume of clerical work involved. Most of this clerical work is of a repetitive nature requiring the process of addition, multiplication and subtraction. For immediate needs of units certain amount of stock is placed at the disposal of Command HQs, who also meet minimum requirements of their units by inter unit transfers.

The above areas of staff functions will readily indicate the desirability of the ADOS usage. The ADPS, systematically applied, will enable us to streamline and speed up the process and a uniform procedure for both Class A and Class B stores also becomes feasible.

To tackle the problem logically, the first step is, to design an overall 'system' which should supervise, direct and administer the functions of



ordnance supply. This work should be entrusted to a high level committee at Government level. The aim of this committee should be to analyse the existing method of controlling and coordinating the supply of ordnance stores to the troops. This committee should have a broad-based understanding of the ADPS capabilities and together with the result of the analysis of the existing system, this committee should aim at a systematic development of efficiency in designing the new system. Expressed in simplified terms the problem can be broken down into:—

- (a) What is to be done, i.e. the planning and its aim.
- (b) When is it to be done, i.e. the priorities.
- (c) Who is to do it, i.e. the organisation and coordination of the functions of the various departments such as ordnance, GS, Finance and the Defence Ministries, the production organisation (DGOF) and the supply organisation (DGS&D).
- (d) How is it to be done, i.e. the systems and procedures to be followed.

The above study should yield a workable 'system' which will form the basis of further action in ADPS application to this system. The system is defined in general terms only.

The next step is to design an information system required. Information is required by the Ordnance Directorate and the GS (WE Directorate) for planning, provisioning and effecting issues to the units. Information on stock position is also required by the ministries of Defence and Finance (Defence) for budgeting and Government sanctions. Also DGOF and the DGS&D are interested in the forecast of requirements to plan their manufacture and supply. The requirement, therefore, is to evolve an information system to give adequate information in time for all the planning needs. This system should be both financially and technically feasible. Since a great amount of technical and financial detail is required to be examined, the job of designing an information system may be delegated to a sub-committee of the main systems committee. This sub-committee can co-opt the technical experts from the ASO and the Corps of Signals to advise on technical matters.

The information system should be defined with regard to form, content and time requirements as under:—

(a) *Form*

By this we mean to define the ideal. In our problem the ideals could well be "that all items of ordnance supply on demand by units located anywhere in INDIA should reach them within a period of seven days." The figure seven is arbitrary and will depend on various factors such as the store handling and transportation times. Also the priority indents require faster timings than the routine requirements.

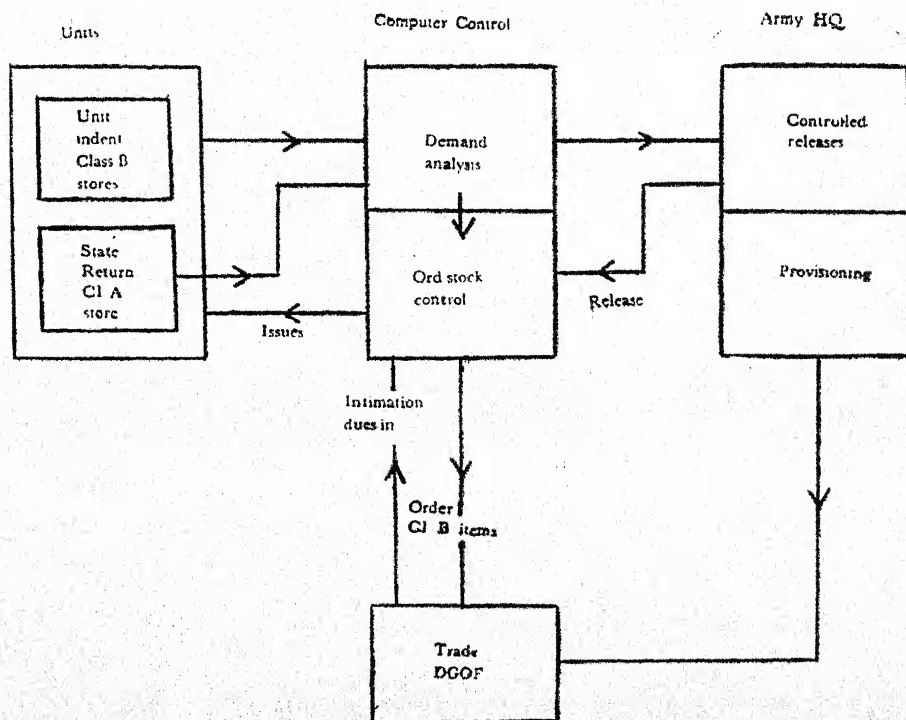
*(b) Content*

This is the actual information required firstly to operate the system, secondly to assess the performance of the system against the ideal in sub para (a) above and lastly for improving the system or for the alternative courses of action. For example, the information on time lag between the demand and supply of a stores item for a unit may indicate some bottle-necks. The remedy in the case of a field unit may well be to increase the scale of OFP holding. On the other hand it may be due to the inadequacy of the maintenance reserve because the previous wastage figures were unrealistic.

*(c) Time Requirement*

The speed with which any information is required to be fed to the management and its periodicity will depend on the management needs for decision making. The collection and processing of information is a costly business and only sufficient and no more than sufficient information, according to needs must be processed. Thus whereas the latest position of the depot stocks should be available daily to the staff at Army HQ for affecting releases, the wastage figures or the daily issue figures are not required every day as the average monthly figure will serve the purpose of planning provisioning in advance.

The next step in our approach to the problem is most important. This is to relate the information to the specific functions of the management. This can best be illustrated by a functional chart showing information flow. The functional divisions are based on our existing organisation but a centralised computer control is inducted into the set-up.



The above is a simplified information flow chart and excludes the budgeting and finance control functions as these are beyond the scope of this paper. Having established the various functional divisions and their information relationship, the next step is to divide the programme for change over into phases. These could be—

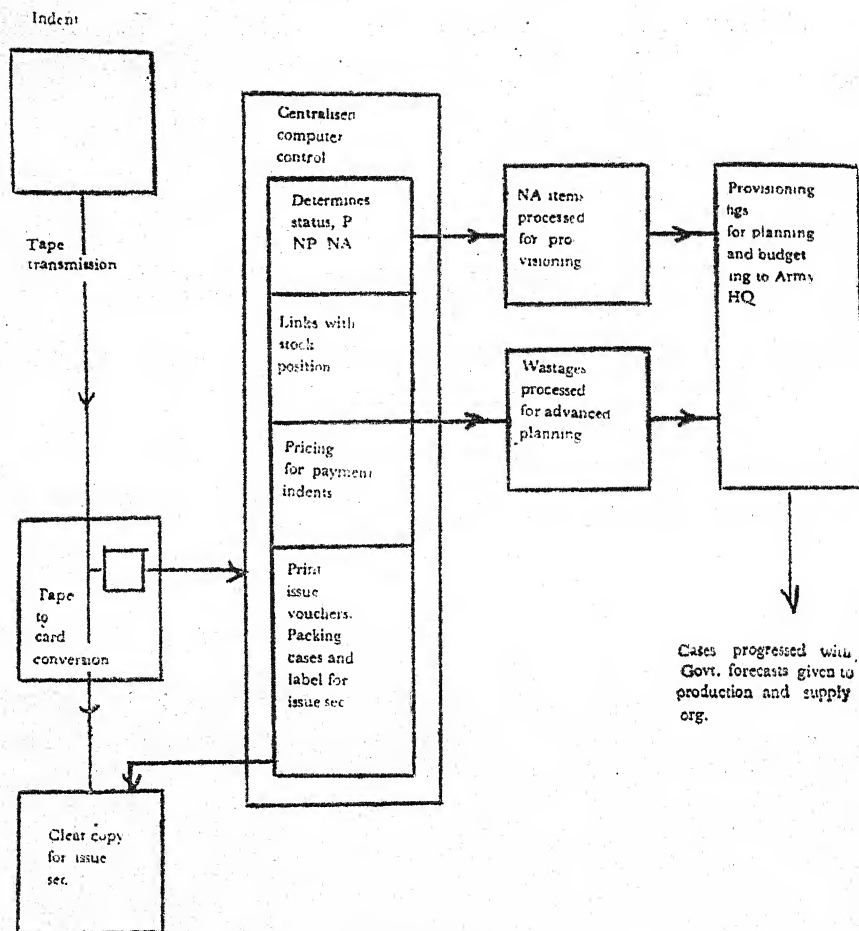
- (a) Examination of the existing needs for information and modifications to improve the information system.
- (b) A unit indent /Army HQ release order processing service with a minimum of delays and high speed feeding of the information on anticipated deficiencies for provisioning.
- (c) Continuous application of the new management science and 'system' techniques to improve the planning and control from an overall view point.

Now we come to the final stage; i.e. of programme implementation. In view of the high cost involved and our lack of experience it is essential that the change over should be gradual and the existing procedures should be modified to cause minimum dislocation. The priority should be allotted for automation of those functions which yield maximum returns in the minimum time. These functions should be carefully identified. One of the functions which needs immediate attention is obviously the speedy processing of indents. A proposed system using ADPS is illustrated on the next page.

The indent, for which the format will have to be suitably modified to facilitate teleprinter/tape relay transmission, will feed information to a centralised computer control. This will do away with the necessity of maintaining command stocks. The depots on the other hand can still be located strategically to cut down transit times as well as to ensure protection against strategic bombing. A clear copy of the indent can be obtained and fed to the issuing depot. The punched input card to the centralised computer control will enable it to verify the stock position of each depot stocking the item from its memory and route the demand to the nearest depot to the unit. The printing of various documents such as the issue voucher, packing cards etc. can be automatically accomplished. Similar requirements of NA items are expeditiously processed and when the total on demand either exceeds a certain figure or any demand is delayed beyond a specified period, the computer will indicate the action to be taken. Action for NA items can take one of these forms:—

- (a) depot may accord sanction to the unit for local purchase;
- (b) item may be purchased under depot's own financial powers;
- (c) for large expenditure, a processed case for provisioning is sent to Army HQ.

The computer can be programmed to automatically pick up the appropriate alternative. The computer automatically updates the stock position for subsequent operations.



### CONCLUSION

An attempt has been made to introduce the functions and characteristics of ADPS. The subject is highly technical and only a general description is feasible in the scope of this paper. Having brought out the capabilities and limitations of the digital computer an attempt has been made to suggest an approach to the problem of computer application to streamline the functioning of the ordnance services. The treatment does not cover all the requirements comprehensively as it is only an attempt to bring out the mechanics of the approach to the problem.

The ADPS is a system of the future. We cannot afford to ignore its capabilities but on the other hand it is to be treated as a slave and not the master. It is, therefore, essential that the ADPS should suit our management system and not the other way round. The management technique, nevertheless must take note of the ADPS capabilities and suit its strategy and tactics to get the most out of the ADPS. Only then a close integration of the ADPS and the management science can yield optimum results.



## BOOK REVIEWS

### GENERAL

**The Spectrum of Strategy** by E. J. Kingston—McCloughry (Jonathan Cape, London, 1964). 223 p. Price 25 sh.

Those who have read the author's earlier books—'The Direction of War', 'Global Strategy' and 'Defence', will know that the Air Vice-Marshal is perhaps the best essayist the RAF has produced. This book is a continuation of his earlier approach to the study of policy and strategy in modern war.

The author begins by specifying the various categories of war we are likely to face: Total, Limited, Local and Cold War. He next defines the geographical areas of strategic and military importance, and the changing political and economic factors that influence national policies in these areas. He then outlines the general strategic and tactical considerations which influence the development of appropriate forces to provide an obstacle to aggression.

The Air Vice-Marshal devotes an interesting chapter to Higher Direction and Command in modern war, in which he attempts to answer the two important questions of decision: who and what body within an alliance should decide to make war? If war cannot be avoided, who should decide what kind of a war it should be?

The author concludes by considering the Deterrent Concept and applying his general strategic theories to specific situations in each of the likely categories of war. He also assesses the feasibility of disarmament and the strategic potential of the UNO. The book is a valuable guide to strategic and military affairs in an age where the issues of peace and war now touch all of us.

E.A.V.

**Defence in a Changing World** by J. L. Moulton (Eyre and Spottiswoode, London, 1964) 191 p. Price 21 sh.

Major General J. L. Moulton, CB, DSO, OBE., retired as Chief of Amphibious Warfare in 1961, after a long and varied career. He is a radical thinker and a forceful writer, and bombards the reader with ideas from almost every page; there are startling ideas, logical and odd statements, and novel theories on a wide range of subjects—all expressed with a most refreshing candour. In this book, it is assumed that the reader has a basic knowledge of the terms Cold, Local, Limited and Total War, and the Deterrent Concept, and the author examines current British attitudes toward defence, and pleads for a rational approach to its problems.

Arguing that national defence requires wider understanding, the author examines the purpose of defence, the prospects of disarmament, strategic nuclear deterrence, the special problems of the British, organisation of defence, cost accounting in defence and career planning for all ranks. (His theories on functional organisation and cost accounting are very similar, in some respects, to the views expressed by General Maxwell Taylor in his book "The Uncertain Trumpet").

The book is most readable, and the author's theories on why the Chinese withdrew to Tibet after their advance into NEFA are particularly interesting. Although this book is a re-appraisal of British defence policy, much of what is discussed is of great practical value to our Army. It is a pity that the book lacks an index.

E.A.V.

**A Dictionary of United States Military Terms** (Public Affairs Press, Washington, 1963). 316 p. Price \$4.50.

The title of this book is a pointer to the flexible character of military science and practice, which, despite perhaps some of its immutable principles and fundamentals, changes from place to place and time to time. Particularly in modern times technology has introduced a host of new weapons and methods of their use, as a result of which new expressions as well as fresh meanings of old expressions have appeared. It is therefore essential that military terms are defined now and again as to their precise meaning, for the benefit of the general public and, very importantly, for those directly engaged in military affairs.

The present dictionary undertakes this task, although to a limited extent. For only those military terms are included which are of interest to the American Department of Defence, which are applicable to all the American Defence Services jointly, or which have not been adequately defined in a standard dictionary. A separate section is given to terms accepted and adopted by the English-speaking members of the NATO. An attempt of this kind would not of course exclude a large number of terms which are equally in use or of interest outside the USA, terms such as *base*, *battery*, *wing*, *assault* etc., but it does narrow down the scope of the work. One learns, almost on every page, how military terms have come to bear special meanings for the American armed forces. One learns that *corporal* not only means a rank but is the name of a missile, that *courier* denotes a satellite in addition to a messenger, that *Bullpup*, *Dyna-Soar* and *Nudets* are among the many recognised abbreviations of rather longish nomenclatures, and that F-104 is a familiar description of an aircraft and M-73 of a gun.

The dictionary has been compiled under the direction of the American Joint Chiefs of Staff but is brought out by a private publisher. A useful, well-produced publication, particularly for students of the American armed forces, but one wishes the language used in defining terms had been simpler.

M.K.C.

**The Arms Debate** by Robert A Levine (Harvard University Press, Cambridge Mass., 1963). 347 p. Price \$6.50.

For almost a decade American scholars have been producing analyses of the problems of strategic and large scale nuclear war, some of very high quality and some of ephemeral value, but together covering almost every conceivable aspect of the problem of thermonuclear war. They have been joined by publicists, philosophers, and politicians, in increasing numbers. We have, at least, a thoroughly competent study of the major positions taken in this arms debate, a book which is of great value for its summary and analysis of what has already been said in America, and which provides some valuable guidelines as to *how* to think and argue about the use of nuclear weapons,

which can conceivably be of great value to those interested in participating in the "little" nuclear debate in India. Certainly not everything in the "big" cold war is relevant to South Asian politics and military strategy, but there is more than enough fuel here to keep the debate going for some time.

Mr. Levine categorizes the participants in the arms debate by means of two criteria: whether they are primarily anti-war or primarily anti-communist (or some mixture of the two goals), and whether their recommendations are for small, gradual changes in policies ("marginalists") or for great, radical changes involving the entire system ("systemists"). There are, thus, six logical categories: anti-war systemists (Bertrand Russell, Norman Cousins, Erich Fromm), anti-Communist systemists (Barry Goldwater), anti-war marginalists (Amatai Etzioni, Harrison Brown, George F. Kennan), anti-Communist marginalists (Strausz-Hupe, Stefan Possony), middle Marginalists (Thomas Schelling, Herman Khan, Glenn Snyder), and middle-systemists (a logical category—no one fills it). This description hardly does justice to the sophistication of Mr. Levine's analysis, and anyone at all interested professionally in problems of arms control must explore this volume for himself.

It is an important book from the local standpoint as well: Indian public figures and strategic thinkers (however few the latter may be!) can be similarly classified into predominantly anti-war or predominantly anti-Communist schools (and, to complicate matters one must add the anti-Pakistani school as well). In addition, their recommendations are "systemic" and "marginalist": of greater or lesser radicalism. Gandhi was undoubtedly a systemic anti-war advocate, but Nehru was an anti-war marginalist. The Swatantra party seems to be anti-communist marginalist, although some of its spokesmen seem to be anti-communist systemists. The CPI left and right wings might be regarded as anti-Pakistan systemists, as might some of the communal groups and parties in India, although within these groups there are differences over their attitudes towards China.

Such an exercise in classification as this is easy to carry out, but in itself not very useful. What can and should be done is an extensive analysis into the detailed assumptions, analyses and policy prescriptions of these groups; the task could be done by some enterprising Indian scholar, and is only to be hoped that with the incentive of the present bomb debate, and perhaps using Levine's book as a model, it will be done.

S.P.C.

### BIOGRAPHY

**Irascible Genius** by Maboth Moseley (Hutchinson, London, 1964). 287 p.  
Price 30 sh.

The last few years have seen a change in biographical tastes. More people are becoming interested in the lives of the engineers and scientists of the last century—for these are the men who have influenced our lives far more radically than many others who have hitherto stolen the biographical limelight.

In the 18th century galaxy of English inventive talent, Charles Babbage appears to be one of the most remarkable of all. Most of his life—and he lived to nearly 80—was spent in an entirely unsuccessful attempt to make a machine that would perform calculations and record the result without the possibility of human error creeping in. His attempts were regarded by his contemporaries as futile, time-consuming and absurd and he became an object of scorn and derision. His half-completed machine was considered a preposterous joke. But on paper he succeeded and it is only in the last decade that we have learnt how his ideas can be embodied in a modern digital computer.

Maboth Moseley has written a human account of a man known only to the few. The authoress portrays this strange far-sighted unhappy man, who in spite of bitter disappointments and a long struggle with the Government, found time for numerous other activities. Babbage was the originator of what is today known as operational research. It was as a result of his analysis of the economics of the Post Office that Sir Rowland Hill introduced the penny post. He studied insurance records and published the first comprehensive treatise on actuarial theory and the first reliable life tables. He invented the heliograph and the ophthalmoscope.

An enjoyable book for those who seek a change from the common biographical celebrities.

E.A.V.

**The Lonely Sea and the Sky:** Autobiography of Francis Chichester (Hodder & Stoughton, London, 1964). 352 p. Price 30 sh.

The book is, not at all surprisingly, a book society choice. It is a stirring tale of individualism and of grit and courage by a man whose social development from the start made him a 'lone wolf' of society.

It is always easy to be resourceful and courageous in company; but it takes exceptional fibre to be so alone or among strangers. That, one could not visualize Francis Chichester by his very nature to have been able to do the things he has done, in a crowd, forces one to contemplate the individual psychology that goes into the shaping of mankind.

Here is the picture of a young boy who having been sent to Ellerslie school hated it. A chance incident at school, when he threw sawdust into another boy's face, found him "put in Coventry" and his elder brother joining the other boys. "Coventry" which was a common thing in English schools in those days, meant that all social contact, including speech, was cut off. Normally 48 hours was bad enough but young Chichester seems to have been most harshly treated by 3 weeks of "Coventry". He says: "This episode turned me into a rebel against my fellows. . . . to make matters worse I was often in trouble with the headmaster. My first term I was up for beating seven times".

Francis Chichester was sent to Marlborough which was "like entering a prison", but then all the best public schools were, and indeed, still are like prisons, in the way Chichester thought Marlborough to be one. It was part of tradition, and empire building, to be privileged to belong to these public schools. Marlborough was no exception, except possibly, to



some extent, in the degree of coldness, because of the very chilly downs on which it is located.

It was his father's ambition that Francis should sit for the I.C.S. but he left school and started life as a farmhand in Leicestershire, but having driven the farmer's milkvan over a boulder, and having been knocked down and sacked by the justly irate farmer, he ultimately got his father to buy him a 'steerage' ticket to New Zealand on board the "Bremen", a reparations ship of P & O taken from Germany after World War I. The author gives here a delightful thumb-nail sketch of his father and himself as frankly as he can. No one save his brother seems to have gone to Plymouth to see him off.

"I was eighteen and off on my own to New Zealand. My father had given me £10 in sovereigns, and because of the deep distrust of my fellows inculcated in me during my religion-dominated upbringing, I always had against my belly a leather money belt." He took a tough job on the ship as a Fireman in the crew. When he got his discharge at Wellington, New Zealand, he drew his 3 weeks wages (£9) and soon got a job for 10 shillings a week, on a farm outside Masterton, as a shepherd. He lost his way in the thick forest of the then virgin areas of the colony.

When leaving England, Chichester had made up his mind not to return till he had saved £20,000. He did so by chance, by going into land agency business with Herold Goodwin. Having made a success of this, they went into the embryonic flying business, and ten years after landing in New Zealand he went back to England to get aircraft for his business and from this return began his adventures in the skies.

An interesting sidelight is thrown on his life by the fact that he was most unwelcome at his home. Though he had turned his £10 into £20,000 he was now looked upon as an undesirable colonial who did such dreadfully un-English things and even spoke with a New Zealand "twang".

He learned to fly, and being interested in navigation, he went for a flight round Europe before his start for Australia. The journey to Australia is really an epic in the annals of air pioneering (though he was not the first to do it) because of the fact that he was almost a novice when he did it. He passed through India via Karachi, Jhansi, Calcutta and Rangoon in 1930, had his first experience of the torrential monsoon of the East Indies, and fetched up in Darwin. Then, irony of fate, he proceeded, for the first time, to get really lost over the Australian mainland while flying to Sidney. He had to land at Camooweal, but due to haze he landed at a water hole 15 miles away, spent the night there and decided to make one desperate effort to reach Camooweal with the few remaining gallons of fuel left in his tank. As he was turning away he got an accidental glint of a roof and felt an awful fool when he discovered how near he had been. This stressed to him the importance of dead reckoning.

When he got back to New Zealand he wanted to do two things: to fly from New Zealand to Australia in his Gipsy Moth and to fly round the globe with the same machine. His main problem was range, as he had to come down for fuel. In order to land for the Australia flight, he had to convert his Gipsy Moth to a sea plane to be able to refuel at Norfolk and Lord Howe islands respectively.

The navigation devices he intended to use included a sextant and he was strongly dissuaded by all and sundry against the attempt; as firstly, the islands were pin-points and secondly there were not adequate navigational devices to be so accurate to land him at such places across open and unidentifiable areas such as an ocean. It was also argued that such flights would be bad advertisement for aviation, as disappearances would put off people who felt flying was not yet reasonably safe. However, Sqn. Leader, L. Isitte in spite of doubting the chances of the flight, helped Chichester get away.

The story of the flight and his perfect navigation to both the islands is thrill packed, ending in a stupid incident in which his aircraft was blown over and into the water while anchored at Lord Howe island. Most men would have given up here, but Francis Chichester, with the help of the islanders, rebuilt his plane, and after months, completed his flight, and then continued it in his attempt to fly round the world. Had it not been for an even more stupid incident than the Lord Howe island one, he would certainly have completed this mission also. For, he could by then take his plane to bits and put it back again. Loneliness never worried him, and he could rough it out with the toughest. He frequently acknowledges being gripped with fear; but he had a wonderful way of controlling himself and getting back to the problem coolly.

The premature end of the journey came when he took off from the bay at Katsuara and hit telegraph wires stretched from hill to hill across the narrow mouth of Katsuara Bay. It is probably wrong that Francis Chichester thought the Japanese were being secretive and queer in not wanting him to land at Katsuara, for had he gone on and landed a little further he would probably have achieved his dream. As it was, his plane was "written off" and he took ship to England.

After the war, most of which was spent in the R.A.F. in England, where he helped develop some new navigation devices, he took to sailing. In his yacht Gypsy Moth II he learnt the rudiments of wind sail and ocean, and then at the lowest ebb of his life, when the doctors had given him up for lost as a lung cancer patient, he again exerted his dynamic will, got into his new yacht Gypsy Moth III and raced against 3 other rivals from Plymouth to New York in the greatest solo sailing race in history. In this, not only did he break the record time of his predecessors by over a week but beat his nearest rival by that much time.

Already famous, he had hit the headlines once more, but in 1962 his roving spirit got the better of him again and he had a try at breaking his 40-day crossing record by setting himself 30 days. He failed to achieve his target by 3 days! He now prepares to race once more in 1964. We wish him good luck and victory.

The book is justly a book society choice. It reads so naturally and has such grip that, again, here is truth for stranger than fiction. The epoch of adventure is still not dead. It transcends age and glorifies the purpose for which the human being was born. Here is man with the elements, and against them, where there is need to survive. It is the story of a man of courage, tender feeling, love of nature and, above all, a narcissus complex seated deep within him.

E. H.

**Nice to Have You Aboard** by Captain Harold Hopkins R. N. (Allen & Unwin, London, 1964). 217 p. Price 28 sh.

The visitor on boarding a Ship-o-War of the United States is traditionally welcomed with the words "Nice to have you on board".

Captain H. Hopkins, Royal Navy served as British Liaison Officer on the Staff of the Commander-in-Chief Pacific United States Navy during the War years 1943-1944. His book is a personal narrative as viewed with perception by a "looker-on". The grim realities of those sea, air and land battles are commented upon with humour as the war moved inexorably towards the final defeat of the Imperial Japanese Navy and the extinction of the overseas Japanese Empire.

The duties of British Liaison Officer was functionally one of reporting back to the Admiralty in London on the complexities of Naval campaigns in terms of equipment and tactics as used in the vast reaches of the Pacific Ocean. The composition of combat ships and the logistic support to maintain their fighting fleets.

Agreement had earlier been reached between the British and United States Governments that a British Carrier Task Force would soon after the defeat of Germany and her Axis partners operate alongside the United States Navy against the Japanese. It was in this context that the author himself a seasoned veteran with active service in British ships 1939-43 became an integrated member of the United States Navy.

With candour and humour the bloody amphibious campaigns culminating in the capture of the Japanese island strongholds are related. We view as individuals the planning execution by the United States Admirals-in-Command as the United States Navy Carrier and Task Forces move in to the kill and the final extinction of Japanese opposition from the Gilbert, Kwajalein, Tarawa, Marshal Group, Eniwetok and Mariana islands. The battle of the Philippine Seas which in the fog of war nearly became a disaster as the Japanese Battle Fleet entered unopposed against the escort aircraft carriers operating in the Leyte Gulf landings is excellently told as is the Joint British and American operations against the Ryukuyo islands prior to final curtain call and the dropping of the atomic bomb.

The author adequately covers the strategy as employed. Where required he raises broad conclusions as to lessons and results achieved.

The all important logistic support and its importance is highlighted. The Pacific theatre of operations being primarily one covering vast sea spaces. The amphibious nature of combat requirements and the integration of the Marine Corps to the Navy prophetically stresses the inter-dependence of the Defence Services.

Although dealing mainly with the conduct of Naval campaigns in the Pacific, the essential theme is a human one of "memory hold open the door".

In dedicating the book to Fleet Admiral Chester W. Nimitz U.S.N. Supreme Commander Pacific, the author pays tribute to the fighting qualities and esteem as held by all ranks to this great Admiral.

A pleasant and entertaining book. It is essentially a personal narrative of the war in the Pacific 1943-1945. The author is unstinting in his admiration of the courage and efficiency with which the Pacific campaigns were fought. Possessing a critical eye and wit he tells his story well.

G.D.

**The Restless Sky** by Air Marshal C.E. Kay CB, CBE, DFC (G. Gharraas, London, 1964) 248 p. Price 25 sh.

The "Restless Sky" is the autobiography of an airman who by making a correct appraisal of events rose to Air Rank and to command the Royal New Zealand Air Force.

Born and brought up in New Zealand he had a yearning to fly until it became an obsession. Immigrating to England he joined the Royal Air Force on a Short Service Commission and received training as a pilot in England and in Egypt. Keen to better the England to Australia existing flight record of 15 days with a companion an endeavour was made. The flight from the start was dogged with ill luck and was eventually completed in 49 days. A flight that promised much was won through in the face of adversity. That they continued to the end was a measure of their determination.

To be the first person to soar across the English Channel and win the 'Daily Mail' sponsored £1000 prize the author took up gliding in Germany. In consequence he was the first person from Britain to be awarded the silver "C" brooch of the German gliding organisation.

Completing his Short Service Commission in the Royal Air Force he returned to farming in New Zealand and with World War II becoming inevitable he received a Regular Commission as Flying Officer in the Royal New Zealand Air Force.

World War II found him in command of No. 75 Bomber Squadron RNZAF operating against Germany from bomber bases in England. The squadron participated in a number of bombing attacks against vital industrial areas of Germany. The mounting Japanese threat against Australia and New Zealand finds him back home in command of Royal New Zealand Air Force Stations. The War over he is selected for a course at the Imperial Defence College, London.

Appointed Chief of the Air Staff in 1956 he leads various Service delegations on good-will missions. As an autobiography of an airman who lived through World War II and participated in the changing pattern of air warfare it holds the readers interest. The book otherwise has little to merit it.

G. D.



## WORLD WAR I

**The Western Front, 1914-1918** by John Terraine (Hutchinson, London, 1964). 230 p. Price 25 sh.

The author is a well-known military historian made famous by his books entitled 'Mons' and 'Douglas Haig: the educated soldier', as also by his essays on military subjects published in various journals from time to time. The present volume consists of some essays, already published in journals and now collected in book form, dealing with topics revolving around the debatable problems and personalities concerned with the Western Front of the First World War. Each one of these essays is written in Mr. Terraine's inimitable racy style, and is discursive rather than descriptive. In these he has analysed the factors and circumstances which led to the type of warfare which developed on the Western Front and which resulted in frightful loss of life and great suffering, but very small gains. The exaggerated belief of the French in the efficacy of the offensive is so beautifully described by the author as the "Offensive spirit gone mad". He attributes this to the Napoleonic legacy of faith in big battalions and a 'united rush across the frontier', a doctrine which could not be considered valid a hundred years after Napoleon, when the conditions of warfare had radically changed on account of the railway and other factors profoundly affecting the whole question of movement and logistics.

Mr Terraine has made a well-reasoned and laudable attempt at demolishing the legend of Napoleonic strategy and generalship, for, after all is said and done, the final truth about Napoleon is that *he failed*.

The essays are on a variety of subjects, but all deal with some aspect or the other of the Western Front and are linked together by the author's introductory passages, which lend to the book a sense of unity and coherence. There are numerous interesting illustrations and a few maps. A very readable book indeed, both for the general reader and the specialist.

P.N.K.

**The Somme** by A.H. Farrar-Hockley (Batsford, London, 1964) 223 p. Price 30 sh.

This is a detailed account of the Battle of the Somme fought in the region of the river between 1st July and 19th November, 1916. The First World War, or the Great War as it was called formerly, is well known for the disparity between gains in territory and losses in men. In March 1915, in the Battle of Neuve Chapelle, the English under Sir John French had attacked and made a mere local dent in the German lines at the cost of extremely heavy casualties. The French under Joffre had attacked in the Champagne area with the support of an immense bombardment by artillery, but after a month's fighting had advanced on a front of 12 miles to a depth of about 800 yards! The cost in men to Joffre was 240,000 men. In the Battle of the Somme which lasted for four and half months, the combined casualties of the Allies (England & France) and Germany came to more than 1,200,000. It was said that the 'flower of British manhood fell on the Somme.' This does not seem to be an exaggeration if one remembers that of the Allied casualties more than two-thirds were suffered by the British—their casualties on the first day alone being 57,000.

The British offensive made some progress for the first few days, but it was painfully slow. Soon however the German line stiffened and fierce counter-attacks were launched. The British and French took considerable numbers as prisoners and also a few towns, but the objectives—the rail centres of Bapaume and Peronne—were never attained. The desperate struggle dragged on all through the summer and the rainy season when it became a Herculean task to move the guns over the muddy roads, and the forces had to grind forward yard by bloody yard.

In fact the offensive had ceased to have a potential for success on 15th September, but Haig, egged on by Joffre, continued the fighting for another two months. The Allies had not achieved the breakthrough, they had not advanced anywhere for more than seven miles from the starting point and the total area won was about 120 square miles at a cost of some 600,000 casualties to the Allies and a similar number to the Germans. Still Haig justified his gross and brutal policy on the ground that his offensive had weakened the enemy, it had relieved Verdun where the French were hard pressed by the Germans, and it had enabled Russia to win a not inconsiderable victory on the eastern front. Whatever the indirect strategic significance, tactically the battle was a disaster judged from the point of relationship between the casualties and the territorial gains. Colonel Farrar-Hockley gives a very lucid and well-reasoned analysis of the success of the German defence—in spite of the British use of tanks—and his account of the various phases of the battle and the men who played the important roles (Falkenhayn, Joffre, Haig etc.) is both authoritative and interesting. There are numerous photographs and maps to add to the value of the narrative.

P. N. K.

**Return to Salonika** by Charles Packer (Cassell, London, 1964). 164 p. Price 25 sh.

Those who are tired of reading variations of the much-publicised popular military campaigns will enjoy this account of the half-forgotten clash between the armies of France, Britain, Serbia and Greece, and the Central Powers: Germany, Austria and Bulgaria.

Charles Packer fought in the ranks throughout the Macedonian campaign, and has written an essentially personal story with intimate reminiscences of his experiences in war. The author follows the progress of the struggle: the belated attempts by Britain and France to aid the Serbs with four divisions; the retreat to Salonika; the augmentation of this initial force by further divisions; the formation of the British Salonika Army in 1915 and the final assaults in 1918.

Overshadowed by the more important happenings on the Western Front, the Macedonian campaign has received little attention and the setting is therefore strange. However, in other ways the conduct of the campaign recalls that of the Western Front: the agonizing sacrifices demanded of the infantry; the frontal attacks against impregnable positions; Europe's young men accepting self-immolation at the direction of ambitious generals. Whilst enjoying the vivid account of the campaign, many readers will no doubt ask themselves, as does the author, "What other period in history can match these years for sheer imbecility?"

E.A.V.

## WORLD WAR II

**On Their Shoulders** by C. N. Barclay (Faber and Faber, London 1964). 184 p. Price 30 sh.

The author claims that the British, on the whole, have been very kind to their generals of the past, and sometimes a single incident was enough to gain a glowing tribute and an equestrian statue in a British city. He therefore finds it surprising that the British nation should have almost entirely ignored the small company of generals who served them so well during the lean years of the Second World War from 1939 to 1942.

The book describes the achievements of eight generals: Gort, Wavell, O'Connor, Wilson, Auchinleck, Cunningham, Percival and Hutton, who though out-numbered, out-gunned, out-tanked and inadequately supported from the air, kept the flag flying while more men were trained, more equipment produced and powerful Allies gathered to the cause, to enable the Generals in 1943 and onwards to reap the benefits and glory of victory.

Brigadier Barclay, claims that the earlier generals, though they made mistakes, were no less capable than those at the top in the years of plenty. This is a well-written attempt to disprove the cliché "nothing succeeds like success;" and only confirms the author's opinion that the British are inclined to be very kind to their generals of the past.

E. A. V.

**The Destruction of Dresden** by David Irving (William Kimber, London 1963). 255 p. Price 36 sh.

This is a documentary account of the Allied air attack in February 1945 on Dresden—a town in East Germany. In this attack consisting of three raids, approximately 135,000 people were killed, a total greater than at either Hiroshima or Nagasaki. As Air Marshal Sir Robert Saundby points out in his Foreword to the book, "That the bombing of Dresden was a great tragedy none can deny. That it was a military necessity few, after reading this book, will believe". In this connection, the date of the attack (February 1945) is significant. Germany was expected to surrender soon, and the need for terror bombing to break civilian morale was no longer there. On the other hand, the same factor, viz. the date, gave the British Government an excuse for launching the attack. The Russians were making advances in Silesia and East Prussia, and the British Government was badly in need of some display of its own strength. Apart from that flimsy strategic excuse, there was absolutely no need at all for an air attack of that magnitude at that late stage in the war, on a town which provided very little or no military targets and which was known to be housing over half a million refugees from different parts of Germany in addition to its own population of 630,000.

David Irving has brought out a fascinating study of a highly controversial problem. He writes with sympathy and understanding of both points of view. Although the Germans had sown the winds by resorting first to area bombing (as opposed to target bombing) and were now only made to reap the whirlwind by the Allies, yet the essentially evil character of bombing



cannot be glossed over, and it is impossible not to feel pity for the victims. David Irving successfully portrays the violence that lies beneath the surface of all bombing, particularly area bombing. He explodes the myth regarding the so-called humane bombing or 'ethics of bombing', which some cynics described as 'bombing of ethics'. His work is outstanding for literary power and depth of understanding, and it is rightly said that the destruction of Dresden may prove to be one of the greatest controversial episodes in the entire history of warfare.

The book is well illustrated and has some maps, appendices and a very useful and detailed note on "sources".

P.N.K.

**The Power of Small States** by Annette Baker Fox (The University of Chicago Press, Chicago, 1959). 212 p. Price 44 sh.

This book is a study of diplomacy in World War II, showing how small powers were able to resist the pressures of great powers in a period of crisis. There were six states in Europe—Sweden, Spain, Turkey, Switzerland, Eire, Portugal—which not only succeeded in keeping out of the maelstrom but actually came out of it stronger. Out of these the author has selected the first three and added two others, Finland and Norway, in order to make the inquiry representative. Finland and Norway failed in their resistance, for one was overpowered by Russia and the other by Germany; and yet, remarkably enough, both of them were, after the war, able to stage a speedy recovery to a prosperous and stable political life. In other words, where the states lost their power they did not lose their potential.

Five situations in the case of each state, or twenty-five situations in all, have been subjected to analysis, which are (1) political and military relationships between the states concerned at the moment, (2) the expectations of the participants, (3) the demands upon the small states, (4) the techniques employed by each side, (5) the resultant effect upon the small state concerned. The pressures of the belligerents were of various kinds, including demands for natural resources, strategic passageways, and collaboration, and of course not similar in every situation. On their part, the states reacted differently to their own situations of crisis; as the author puts it, Turkey was a "neutral ally", Finland a "fighting neutral", Norway a "maritime neutral", Sweden an "armed neutral", and Spain an "unneutral neutral" and between the quixotic responses of Spain and the exhibition of strength by Sweden, there were many shades of manoeuvre.

But certain similarities of advantage were obvious. None of them lay on the direct path of invasion: Spain at one end of the Mediterranean and Turkey at the other enjoyed special strategic immunity. All the states developed good diplomatic skill—even Norway, defeated though she was, managed to keep her image alive with a resourceful government based in Britain. Turkey and Sweden showed that "neutrality is not an end by itself but a means to a higher end", as the author puts it, and developed a reasonable military strength to preserve it. All states tried to eke as much advantage as possible out of the mutual rivalry and predicament of the belligerents.



The power of the small states is a theme which did not end with the Second World War. It is upon us with added interest, now that the world is littered with an unprecedented plethora of political units, many Lilliputians. In a world in which Cuba can confront Russia and Taiwan can confront mainland China, the small state can be said to have a capacity not only to exist but defy. Whether this capacity is inherent or reflected would be a matter of grand debate. *The Power of Small States* is therefore a pertinent publication and opens a vista of further inquiry.

M.K.C.

**Norway 1940** by Bernard Ash (Cassell, London, 1964). 340 p. Price 42 sh.

The Chamberlain government having lost the peace declared war on Germany in 1939, but did not know how to win it. The tired old men in authority fought the war by a system of committees which meant interminable discussions and vacillation, but very little planning or action. During the period of the phoney war winter (of 1939-40) Churchill pleaded several times (with the unanimous support of the Admiralty) for mining of the Leads to close them to German shipping, but he was every time opposed by the Foreign Office, "who throughout war seem to have exercised an unjustifiable and quite wrong-headed influence on military affairs". Finally, however, when Russia invaded Finland, there was great anxiety in Britain, neutral countries and America to send help to Finland. This could be done only through Norway and Sweden but the Norwegians stubbornly refused to countenance any proposal for foreign forces to pass through their country. Egged on by the French and by public opinion, the War Cabinet was forced to consider plans for operations against Norwegian opposition. The outcome was a decision to lay mines off the Norwegian Coast and to keep an expeditionary force ready to sail, but not until Germany was clearly about to violate Norwegian territory. As the author puts it, "everything, apparently, was going to move in slow motion for the convenience of all concerned."

Meanwhile, the Germans had their own plans for invasion of Norway, and while London was giving a "supreme demonstration of all the vices of democracy without any of its virtues" by way of more discussions and debates, the ruthless dictatorship in Germany was not only making decisions but implementing them. The result: Germany forestalled the British precautionary expedition and invaded Norway in April 1940. The British forces were now, after all, ordered to move into Norway, but it was too late and the landings were opposed by seven German Divisions.

While the British units consisted of troops untrained in mountain warfare, the Germans were well equipped, hardened regular troops. The British units "were to take with them no transport and virtually no artillery. There were no arrangements whatsoever for air support. They were visualised as carrying out garrison duties, and therefore their lack of more essential stores and supporting arms was counter-balanced by a wealth of office equipment: normal regimental accounting procedure was to be followed." The only result to be expected from an expedition of this type was that the force fell an easy prey to the well organised and well supplied German forces.

There was nothing wrong with the British troops or the navy which took them there. They fought as best they could under the circumstances

and three VCs were won by officers of the Navy. The Norwegians co-operated and helped the British—in spite of Quisling—but the odds were very heavy against the allies, and by June Norway was completely under Nazi control.

Bernard Ash has given a very well reasoned, authentic and full account of engagements fought both on sea and land and has clearly brought out the gross inefficiency, administrative bungling and unrealistic planning of the men in charge at the top in London. There was no co-ordination between the three Services—army, navy and air—which remained responsible for their own respective tasks, and in one case Admiral Whitworth was forced to protest that he had received three separate and differing directives within a matter of hours!

The handful of Norwegians who were opposed to Quisling and the Germans put up a heroic fight under their gallant leader General Ruge, but they were badly handicapped by want of equipment which was often promised but never delivered. Still they fought on and the story of their epic fight and tragic end reads like a legend.

The Norwegian campaign, resulting finally in a dismal withdrawal, though not very important militarily, is important for the lesson which one can learn and the consequences which flew from it. The lesson of course is that by studying the campaign in detail one can see how exactly a campaign should not be planned, organised and conducted. Modern wars cannot and should not be waged by a method of trial and error. The important consequence was that the dithering Chamberlain government was swept away to be replaced by one headed by Churchill: the men who had lost the peace were not allowed to lose the war also.

A well-written, readable book indeed, with many illustrations, maps and an index.

P.N.K.

**Generals at War** by Francis De Guingand. (Hodder & Stoughton, London, 1964). 256 p. Price 30 sh.

The author had the unusual distinction of serving under three distinguished British Generals, Wavell, Auchinleck and Montgomery, during crucial moments of World War II. He also naturally came into close contacts with a large number of distinguished Allied leaders including Eisenhower to whom is devoted a chapter entitled "A Tribute". In the book under review, he puts over his personal recollections of men and events from the dark days in the Middle East in the early forties, to the end of the war, and shortly afterwards.

Possibly the most controversial portion of the book deals with Field Marshal Wavell. At first sight, it would appear that this is probably the most unfair portion of the book, because Wavell, unlike other wartime Generals, left no material behind to explain his point of view. However, the author has made an important point in the make up of Wavell as the General who did not have a consistent attitude towards political pressure. It is of special value to the Indian reader, and it is worth hearing about it in the author's words.

"When I was at the Camberley Staff College I remember the big exercises that were held, in which we students were allocated certain appointments, such as C-in-C, Chief of Staff, etc. In most of them a member of the Directing Staff used to take the part of a politician, who would do his level best to make the service chiefs do something which was militarily unsound. We were all taught the lesson that we must rightly expect the political heads of government to press us to undertake this or that in time of war, but that if the proposal was impracticable, from the military angle, we must say so and stand firm on the issue.

"I suggest that the Greek episode is the classic example from the last war of how the military considerations were given insufficient weight and it should figure in every staff college curriculum. The whole dismal story shows this to be the case, and I'm afraid the blame must be laid on Wavell. He found himself unable to say 'No' to the politician, and agreed to an operation which was fundamentally unsound. The politician, however, can hardly be blamed, for he was entitled to accept the views of a soldier who had at that time, because of the desert victories against the Italians, reached the pinnacle of prestige in the eyes of the British people.....

"In one of his messages to Churchill he even offered to resign because of disagreement with the policy. He had no doubt learnt his lesson, but it was a pity that he had not applied this resistance when faced with the militarily unsound expedition to Greece. Thus, in the case of Greece, Wavell apparently carried out the politician's wishes although the project was militarily unsound: in the case of Iraq, however, he decided to fight political pressure in a matter where the military possibilities supported their view rather than his. Even allowing for the effects of cumulative strain in the last few months, these paradoxical actions of Wavell must suggest that he has been overrated as a commander and as a strategist, and that his military judgment was wrong.....

"Thus, to sum up, the more I study Wavell's record of command, the less I am impressed with his military judgment, although I would be the first to admit that he was commanding both in the Middle and the Far East during most difficult periods. I submit, however, that our fortunes might have worked out better if he had not given such bad advice, and if he had approached problems more realistically and with greater skill. His fundamental faults lay in his inconsistent approach to his relations with his political chiefs and in a military judgment that was often either wrong or vacillating. If it was right for him to threaten resignation over Iraq, it was more so over Greece—unless he really did believe the expedition had a chance of success, which would be the most serious indictment of all, and which, in view of his ostrich-like attitude to plans for evacuation, does seem possible. During his Middle East Command, which made his reputation, he had six major decisions to make—the scope of O'Connor's desert offensive; the taking of Tripoli; Greece; Iraq; 'Battleaxe', and Syria. It can be argued that, in the case of O'Connor, Wavell wished to keep that offensive in 'balance' with those of Cunningham and Platt. However, the remaining five out of the six decisions were wrong and two—Greece and 'Battleaxe'—were disastrous."



The book, however, is not as serious as the above quotations would indicate. It is spread throughout with excellent stories, especially about Montgomery. The one about his ADC who fired his pistol in the air after a hectic session of vodka drinking and fraternising with the Russian Allies has often been heard in various forms. De Guingand gives us the authoritative version:

"The main character of this story joined the distinguished band of Liaison Officers after poor John Poston had been killed. He was very likeable young man. Not long afterwards the war drew to a close, which, as far as 21st Army Group was concerned, dated from the German surrender at Luneburg Heath.

"It was then that we began to fraternize and make contact with our Russian Allies and a series of banquets took place. Our Red Army hosts always surpassed us in the splendour and standard of their hospitality. They taxed one's head and stomach to a dreadful extent, and unless one had the firm resolve and frugal habits of a Montgomery, the after-effects were often painful and severe.

"It was late in the afternoon before the guests were allowed to depart, and Dawnay (the Military Assistant) began to organize Montgomery's party. Unfortunately, reports reached him that the latest-joined Liaison Officer had suffered considerably at the hands of his Russian hosts and their vodka. It was obvious that it would be unwise to let him join in the farewell formalities near the runway. Arrangements were therefore made to have this unhappy officer taken ahead independently of his Chief to the Dakota, and it needs little imagination to guess in which part of the aircraft he was deposited—it was, of course, the 'Lou'!

"All went well, and after inspecting the Guard of Honour, our C-in-C stepped into his aircraft, accompanied by the best wishes of his Russian opposite number. As the aircraft was being prepared for take-off Montgomery turned round and questioned Dawnay regarding the young officer. Was he aboard? Kit could truthfully reply that he was, for he had to talk continuously in order to draw the hilarious noises that were issuing from the 'Lou'!

"It was then that the Russian started to fire their 19-gun salute in honour of the Field-Marshal. And it was this very procedure that produced such unfortunate results for our temporarily disabled friend. With that ingrained sense of military discipline, together with a desire to see that his Chief had his full share of respect, he pulled himself together, and, not to be outdone, drew his revolver in order to join in the salutation. Without warning, the shattering sound of several shots was heard above the roar of the engines. The L.O. had made his contribution very effectively by firing through the window of the lavatory. The aircraft then took off and he returned to his previous happy state".

Much less known is the story when Montgomery took exception to gambling, which was quite "the thing" during the War. Let the author take up the narrative himself "I now come to the one time when our Chief took exception to our gambling. It was at his Tactical Headquarters which was at that time situated in a small villa West of the Rhine. He had retired



to bed early, as usual, and out came the cards. The players besides myself were, I think, Johnny Henderson, John Poston and Bill Bovill. We may have been making a bit of a noise, but whatever disturbed him, Montgomery came down the stairs from his bedroom unexpectedly, finding us around the table in the throes of trying to break a formidable bank run by Bill.

For some reason, which only my illustrious Chief knew, his usual amused detachment had vanished. He went purple in the face and I have always described the ensuing scene as reminiscent of the Bible story of Christ flinging the money-lenders out of the Temple. Cards, matches and chits were swept off the table and scattered all over the room. I was given a stern order not to gamble in the Mess with his ADCs. An uneasy silence prevailed as our Commander swung round and retired to his bed.

History does not relate what happened to the money-lenders after they had left the Temple. As far as we were concerned, however, the game was continued within a few minutes in one of the Mess waiters' "godown". I had, perhaps, taken my admonition too literally, for we were not playing in the Mess, and in any case it was really impossible to stop our gambling series so abruptly. We just had to give those of us who were down an opportunity to get their money back!

The author is no stranger to a generation of Indian military readers. His 'Operation Victory' was possibly the first military history book which many of us really enjoyed. "Generals at War" is, if possible, even more enjoyable. But nevertheless a doubt keeps assailing the reader. These many stories and comments of twenty years ago might appear fascinating to those 'who were there', or who were even distantly connected to them. They are sure to bring back treasured memories to many, but the doubt lingers, whether when read out of context they might not give a one-sided view of things as they were. Finally, this reviewer for one wonders whether the new post war generation of soldiers might find them equally interesting, or whether they might not class them as stuff passed on by rather old fashioned blimps to a captive audience of long suffering subalterns, a thought arising not so much from thinking of the welfare of subalterns as possibly from the feeling that those of us who were there at the time, might not now be considered old fogies.

A.M.S.

**The March on Delhi** by A. J. Barker (Faber and Faber, London, 1963). 302 p. Price 42 sh.

This is an excellent account of the Japanese attempt in the summer of 1944 to stage a march on Delhi by defeating the armies of Mountbatten's command in the Imphal-Kohima area. A little before this great offensive which in the words of the Japanese General Mutaguchi 'came very close to success'—Subhas Chandra Bose had exhorted the INA with a 'Special Order of the Day', in which, among other things, he had used the words "Onward to Delhi". The title of the book under review is evidently inspired by those words. There are numerous other books, official and non-official histories, which have already described these operations, and how the gallant stand of the Indian and other Allied Troops at Imphal and Kohima frustrated and firmly defeated the Japanese offensive, thus making it possible for the Fourteenth Army to take to the offensive in its turn and drive

the Japanese out of Burma. But Mr. Barker's book has certain unique features which make it worth a perusal even by those who have read the earlier publications and are familiar with this part of the war against Japan. A reference to these features, not found in any other book is therefore essential. Firstly, Mr. Barker has brought out the Japanese side of the story more clearly than other writers on the subject — and not only the Japanese point of view, but also their plans, the Japanese command structure, the differences between Lt. Gen. Mutaguchi and Lt. Gen. Kawabe and other relevant matters. This helps one to understand better why the Japanese offensive launched with such confidence of success ultimately failed. Mutaguchi certainly has a point when he says that after the offensive had got off to a good start at Kohima, if his orders to press on to Dimapur immediately and cut the railway there had been obeyed, the whole complexion of the operations would have changed. In the event the order was not obeyed and it is idle now to speculate what repercussion the successful implementation of this strategy would have had on the Fourteenth Army logistics, but there is no doubt that it would have been extremely difficult, if not impossible, to supply all Allied troops in north and east Assam by air, with Dimapur railhead in Japanese hands.

Then again, Col. Barker has done justice to the fighting qualities and performance of the Japanese without belittling the worth of the British, Indian and Gurkha soldiers. In his own words, the Japanese soldier often "behaved as a fanatic, sometimes as a brutal thug, but always he was a formidable fighting man who gave a good account of himself in adverse conditions." The chapter on 'Bushido'—the Japanese code of military honour—is worth reading. The Japanese soldier's blind faith in the Emperor, and the belief that all his sins will be atoned and he will be sanctified by death in battle, may be read with impatience by the modern intellectual, but they certainly gave the soldiers the courage to fight till the last man and the last round. "Their courage never failed, the failure lay in the intelligent use of this courage." Nobody can quarrel with this dictum of the author.

The book has several maps, is profusely illustrated including photographs of some Japanese generals and one of Subhas Chandra Bose with General Kawabe. One of the appendices entitled Biographical Digest is extremely useful as it presents the military background of the senior Japanese and British officers concerned.

One minor error—excusable in a foreigner—may however be pointed out, Netaji was either known by his full name (Subhas Chandra Bose) or simply as Subhas Bose or even as Bose, but never as 'Chandra Bose' as given in the book at some places. To sum up, the "March on Delhi" is a very useful accession to the steadily increasing literature on the fighting in Burma.

P.N.K.

**The Battle for the Mediterranean** by Donald Macintyre. (Batsford, London, 1964). 216 p. Price 25 sh.

Great civilizations have nurtured around the periphery of the Mediterranean and on reaching their zenith been gradually eclipsed. The common factor to their rise and fall has depended on the degree of maritime control their Navies held on the sea and supply routes upon which the success or failure of the field armies largely depended.

This historical association was true in World War II as it must continue to be in the future.

Donald Macintyre, a professional sailor and Naval aviator, brings into focus this overriding importance as it affected the fortunes of the contending Allied and Axis armies in the precarious prelude to victory in North Africa, Greece, Sicily and Italy.

The struggle for maritime control continued for over three years of bitter warfare on, above and below the Mediterranean waters. With the fall of France in 1940 and the entry of Italy into the war, British Naval forces were extended to breaking point. In a desperate bid to redress the balance of Naval power in the Central Mediterranean, British Naval airmen flying off an aircraft carrier struck at Taranto on the night of 11th November, 1940. Attacking with 20 obsolete biplane Swordfish torpedo bombers they sank and crippled major units of the Italian Battle Fleet. Marking the end of an epoch and heralding a new dimension in Naval offensive power it signalled the demise of the battleship and made the surface gun fleet an ancillary to Naval aviation. This truth to be devastatingly broadcast to the world a year later with the Japanese carriers attack on the American Fleet in Pearl Harbour.

The Mediterranean struggle revolved largely round the ability of the British to build up and preserve the island of Malta as an offensive base in the midst of waters otherwise dominated by Axis Sea and Air forces. The German and Italian strategy geared to land fighting did not appreciate until too late the geographical importance of Malta athwart the short Axis supply routes to North Africa. The key lay in an initial sea-borne invasion of Malta. Had this been carried out the issue in North Africa may well have been other than victory for the Allied Armies.

Instead, Malta was to be subdued and kept supine by aerial bombing. The superiority of the Axis Air Forces were such that the British had to resort to the ferrying in of fighter aircraft at distance using British and American aircraft carriers. To keep Malta operative and its larder supplied desperate convoy battle were fought. The importance of these convoys and their passing through brought about major sea and air battles. On the successful completion of a "Malta run" convoy in commenting on the courage and resourcefulness of the participating merchant seamen British Admiral Syfret stated that "he and all officers and men of the Royal Navy who saw the steadfast manner in which the merchantmen pressed on their way to Malta through all attacks. . . will desire to give first place to the conduct, courage and determination of their Masters, Officers and men;" a judgment which time has confirmed.

Had the Battle for the Mediterranean been lost by the Allies, its consequences may well have changed the course of history. Its impact to be profound on the emergent Asian and African continents. This is an important book on current military history.

G.D.

#### AIR FORCE

**The Early Birds** by Maj. W. Geoffrey Moore, R.A.F. (Putnam, London, 1963), 146 p. Price 25 sh.

All considered Major Moore did catch the proverbial worm with his 'Early Birds'. The worm being a pioneering spirit and a burning desire



to fly, better than any one else. In that early flying era, the age of chivalry was still existent. The knight-errant and charger being the integrated pilot and flying machine.

As a work of literature it is not in the highest class. That would be too much to expect from a man who was supreme in another field. As Marshall of the Royal Air Force Sir William Dickson comments: "This book is an honest and true account of a pilot's recollections of those early years, written by himself. It contains accurate accounts of air operations which up to now have received little attention. Well written it tells the story of a brilliant pilot who achieved fame when military flying was still in its infancy."

In that fascinating era, when things were uncomplicated yet, Flight Sub-Lieutenant W. G. Moore, R.N.A.S., joined the Royal Naval Air Service after gaining Federation Aeronautique International Flying certificate in November 1914. A natural flyer, he quickly got into the run of Service flying despite a crash. Right from the start his ebullient spirit was in evidence. He gives a fascinating account of his flying training and the 'International Techniques' employed in those days. However, he survived his first crash and the training and was appointed to fly Sopwith Scout seaplanes for patrol duties from the Royal Naval Air Station, Isle of Grain, near Sheerness in the South of England. While at Grain, he flew planes attached to the Naval Experimental Station. It was indeed a feat that he learned to fly 25 types of aircraft in the short span of one year. One of the planes he flew and 'wrote off' was a captured German Albatross. He became an expert at aerobatics. Sir William Dickson has this to say about Moore's Prowess, "In all the years I had to do with fighters and those who flew them I do not remember anyone who could fly an aircraft more beautifully. His aerobatics were original and breathtaking, but his exceptional hand and judgment gave them a quality and smoothness that seemed to eliminate the strain which in other hands would have been fatal."

After a year at Royal Naval Air Station, Grain, he was transferred to take part in the East African Campaign as a Flight Commander. His squadron in those days had short seaplanes. The operational flying consisted mainly of reconnaissance. After a while he was assigned to fly a one man Air Force for General Northey. It was here that he flew and maintained a BE2c on improvised landing grounds in the remote and unexplored bush country. He did valuable work, increasing his flying time by refueling in the air. For all this he got a D.S.O. which due to some misunderstanding was made a D.S.C. and got stuck with this lesser in importance gallantry medal.

On his return from Africa he was appointed to the first Deck Landing Trials Squadron. He was among the first Naval aviators to land an aeroplane on the deck of a moving warship. He converted aircraft carrier H.M.S. FURIOUS. It was a dicy business landing an aircraft on an improvised flight deck, forward of the superstructure. After an accident to the Squadron Commander, Moore took over and proceeded, in his usual confident manner to show how easy it was. What the Trials Squadron achieved was a flushed flight deck, with the island arrangement which is still in today's monster sophisticated aircraft carriers as used by the Maritime Naval Powers.



Moore was transferred when the R.N.A.S. was amalgamated to the Royal Flying Corps on 1st April 1918 and the independent Royal Air Force came into being. He was appointed in Command of the R.A.F. Station, Turnhouse. He subsequently missed the day-light raids over France, which he regretted.

Here is an exhilarating book about those highly unpredictable early days of flying; the days when 'By Guess and By God' was the key rather than a motto. It is a book brimful of good natured humour and gusto like the man himself. The book fills an important blank in the History of Service Aviation. To those interested in the historical progress of Service Aviation and its allied air communications, now commonplace as Civil Aviation, it is a welcome addition.

G.D.

**Design for Flight: The Kurt Tank Story** by Heinz Conradis (Macdonald, London, 1960), 246 p. Price 21 sh.

At 67, Dr. Kurt Tank pursues, at the Bangalore section of Aeronautics India Ltd., his life-long occupation of designing aircraft. Looking at his broad, intellectual forehead and deep eyes one would hardly imagine the stirring times through which he has waded and the exciting events which fill his life. 'Design for Flight' is the Tank story through more than half a century.

Kurt Tank has been through two world wars, seen twenty-five years of the rise of German aeronautical industry, built up large number of aircraft, and flown in them from continent to continent. In an age which threw up an astonishing crop of top air designers in Germany—Dornier, Heinkel, Junkers and Messerschmidt—Tank was certainly among the most illustrious. If he did not acquire fame equivalent to that of some of his contemporaries, it is because the aircraft designed by him did not bear his name till the last years of his endeavours in Germany. When it did begin to appear on a high altitude fighter called Ta-152 or a night fighter called Ta-154, it was too late, for these aircraft were never produced in quantity.

Dr. Tank was the head of the famous Fock-Wulf company when the Second World War ended. He was arrested and confined in Schaumburg castle, where he ruminated over newer designs of aircraft, gathered wood, berries and potatoes for a meagre living, and awaited his disposal. Here he also wrote a memorandum describing the reasons for the defeat of Luftwaffe which once upon a time was the strongest and most modern air force in the world. He ascribed the defeat to lack of stimulants from top leadership, absence of technical and industrial elements in the Combined Services Staff, paucity of technical officers in the corps, and resourcefulness on the part of Allies. Meanwhile his fame travelled outside Schaumburg and there were more than half a dozen countries, including Britain and Russia, which wanted to have him to assist in aeronautical research. He chose Argentina; and his escape to that country, described in the book, makes a thrilling story. From Argentina he came to India.

'Design for Flight' is the story of a man, a science, and an age. It is interestingly written, containing some lively pen pictures of some of the topmost German leaders of the time.

M.K.C.

## INTERNATIONAL AFFAIR

**New Dimensions in Foreign Policy** by Max Belloff (Allen and Unwin, London, 1961), 208 p. Price 25 sh.

Max Belloff's 'New Dimensions in Foreign Policy' is an invaluable study, of the manner in which a tradition ridden administrative system met the challenges of new political, military and economic problems. His study of British administration during 1947-59, a period that is critical in Indian administrative history as well, is a revelation of the similarity in problems faced by the two countries.

The termination of World War II led to a rapid mushrooming of a host of international organisations. It was symptomatic of the conviction among war-torn countries that the age of narrow nationalism was over and that close links in every sphere of national activity had to be developed among them if the world was to be spared of the possibility of a new holocaust. Even for a nation like the British, which had jealously cherished its sense of "separateness" from the rest of Europe, the need for participation in the United Nations, the Council of Europe, NATO, European Coal and Steel Community and a number of other international organisations were too compelling to be ignored. Participation in these international bodies was not only liable to deprive Parliament of some of its powers of control over Government policy but were also likely to result in Government having to accept courses of action that might have normally been rejected if considered purely in national terms.

Max Belloff has made an interesting study of these new international commitments of Britain, by isolating and analysing the machinery with which these commitments were implemented. He has shown how the British administrative system has responded to new challenges by improvement, improvisation or even creation of fresh institutions for meeting the problems posed by expanding international commitments.

The machinery erected to meet the external commitments of the country in the field of Defence is of considerable topical interest in India where there has been increasing international collaboration in the present phase of this country's Defence efforts. Britain's participation in the NATO was not confined only to realigning Defence policy and strategy to meet wider international requirements. The Government was also confronted with the economic problems of rearmament in the early stages of NATO's development. The existing machinery in the form of the Defence Committee of Cabinet working with the Secretariat of the Chiefs of Staff as well as the Committee of Senior officials under the Chairmanship of the Secretary of the Cabinet and including representatives of the Minister of Defence, Chiefs of Staff, the Treasury and the Foreign Office, has been carefully examined through all phases of their modification and development. The problems of coordination among various agencies of Government to ensure a unified presentation of governmental policy, the problem of training administrators not only in technological know-how but also in giving them the economic bias that modern administration calls for, have all too familiar a ring with problems that beset Indian administration.

Any Defence Service Officer faced with the prospects of battling with files at Headquarters would do well to read this study. It is in several respects

a projection on an international screen of the problems he will have to face during his tenure.

N.B.M.

**Communism and Colonialism** by Walter Kolarz (Macmillan, London, 1964), 147 p. Price 21 sh.

The only redeeming feature of "Communism and Colonialism" is the foreword by Edward Crankshaw, written with all the sensitiveness that is characteristic of his commentaries on the Soviet Union. The book itself, is a sad spectacle of a confirmed "anti-Communist" flourishing the weapons that have been used since the early twenties by crusaders against the "anti-religious", "anti-liberal" and "anti-humanistic" elements of communism. Forty years ago the weapons had all the appearance of invincibility; today they are as interesting as Etruscan relics in a museum.

As a thinker, Kolarz has the profundity to identify the central creed of an anti-Communist—"Communism will only disappear when the non-Communist puts communism out of business not through propaganda but by positive work in every field of human endeavour." Yet the book is a mere reiteration of the well worn charges of police terrorism, thought control, absence of the rule of law, suppression of religious freedom and a host of others that have ceased to carry any conviction. When a balance sheet is drawn up it shows that the credits of the Regime after forty years, far outstrip the debits that have been triumphantly displayed by anti-Communists. The revolution in education by a total eradication of illiteracy, the growth of a technical intelligentsia with few equals in the world, the revolution in the material well-being of the people, the confidence with which liberalisation from controls is being introduced have uniformly corroded the antiquated weapons that anti-Communists still insist on brandishing.

Kolarz's energies are principally devoted to the iniquities of colonialism, Soviet style. A condemnation of Soviet extraction of reparations after World War II, the unscrupulous use of Soviet troops for the installation of pro-Soviet puppets and the subjection of external political and economic policies to Soviet control have often been used by writers to substantiate charges of Soviet imperialism. But Kolarz has permitted his enthusiasm to blunder much further. He claims the right of indiscriminate self-determination to every fragmentary racial or linguistic group within a State. He asks rhetorically: "Indeed, what equality can there be between the great Russians—a people of over one hundred million—and the small tribes of the Far North, or those of the Altai, which number only a few thousand or even a few hundred." He bemoans that in 1923, when the Soviet regime was still in its infancy, the text of the local Communist newspapers of Samarkand contained over 37% Arabic and Persian words and 2% Soviet words. In 1940 the newspaper 'Kyzl Uzbekistan' contained only 25% Arabic and Persian words whilst the percentage of Soviet words had increased to 15%. Kolarz represents this as the product of a ruthless policy of cultural domination without realising that if he were but to look across the Atlantic to the provinces of Quebec and Nova Scotia, he would see Gresham's law in cultural and linguistic sense slowly resulting in the exquisite French language crumbling before the vitality of American English.



Kolarz's indignation at the Russification of such linguistic and racial minorities as the Kazakhs, Uzbeks, Tazhiks, Esthonian and Lithuanians, no longer strikes a responsible chord. Their appeal is as much lost in the limbo of history as the claims of Bosnia or Herzgovina for a place in the sun. They are particularly unacceptable to a nation like India or Indonesia where a wide variety of sub-racial loyalties exist, which if encouraged, would lead to the complete disintegration of the nation.

Kolarz, lost in the idealism of European liberalism, has not yet become aware that the centripetal forces holding a nation together transcend loyalties of a racial, tribal or linguistic nature. In the quest of modernisation, for achieving the progress and advancement of other nations of the world, petty regional loyalties or a community of feeling based upon language are set aside in the interest of a unified nation.

The peoples of Asia and Africa and those of Europe who have experienced the horrors of war look forward with longing and hope at the relaxation of tensions between the West and the Soviet bloc. It is people like the author of "Communism and Communalism" and his ilk whose unimaginative emotionalism create major impediments in the development of understanding.

N.B.M.

#### INDIA

**Battles of the Indian Mutiny** by Michael Edwardes (Batsford, London, 1963), 216 p. Price 25 sh.

Mr. Michael Edwardes is coming into the limelight by writing popular books on different aspects of Indian history. He is a gifted writer, who with his facility of expression knows how to portray the events of the past in rich and vivid colours. His book "A History of India" is considered to be an admirable survey of Indian history. In the book under review the same freshness of outlook is revealed. Herein lies the chief merit of the book. It is a clear, vivid and interesting account of the battles of the Indian Mutiny. There is hardly a jarring note; the narrative flows smoothly like a river and is easily understood by the average reader. The book avoids too many details which retard the movement of the story. The author has made a valuable contribution to the subject. In fact, there is very great need for the re-writing of Indian history on the pattern being followed by Mr. Michael Edwardes.

The book would have become still more useful if the author had cared to read some of the recently published books on Bahadur Shah, Kanwar Singh, the Rani of Jhansi and Tatyia Tope (Tantia Topia). As it is, the description of the battles is rather one-sided and the reader is kept ignorant of the 'other side of the hill'. A battle loses half of its interest if the light of publicity is turned only on the winning side. In the revised edition of the book Subzimandi may be translated as 'Vegetable Market' and not as 'Green Market' (p. 30). Moreover, it would be preferable to use modern spellings of place names such as Karnal for Karnaul (p. 29).

The book is a valuable addition to the ever-growing literature on the Indian Mutiny. Its fine get-up, printing and illustrations add considerably to its utility.

D. P.



## CORRESPONDENCE

*Correspondence is invited on subjects which have been dealt in the Journal, or which are of general interest to the Services*

To

THE EDITOR, USI Journal, New Delhi.

SIR,

### I

#### DEFENCE THINKING

I wish to congratulate you for the bold and thought-provoking editorial of the Jul-Sep. 64 issue of the Journal. As far as I know, this is the first time that an attempt has been made through a professional Journal to orient Defence thinking on proper lines.

I would also wish to take this opportunity of expressing my admiration for the very good articles on "Our Defence High Command" by Lt-Col S. K. Sinha, which also appeared in the same issue of the Journal. Uptil now, although the subject of this paper has been discussed in previous articles in the Journal, however its language was so couched, that one had to read between the lines to understand its clear meaning. This is the first time that this subject has been treated without any camouflage, and the author had the courage to call a spade a spade, and see the matter in its correct perspective.

In conclusion, I feel I will be correct in saying, that with the publication of the Jul-Sep. 64 issue, the Journal has reached real maturity. In this respect an open society like ours, grows or withers according to the power of its ideas and the vitality of its interior dialogue. If ever the USI Journal should reach a point where the clash of ideas come to an end, where debate disappears, where everybody agrees with everybody else on everything, then we were finished as a thinking society. The intense interest which has recently been shown both by military and civilian officers in your Journal is a striking evidence of a hunger for ideas, for knowledge, and for insight into Defence matters. Your very fine editorial should be taken advantage of the opportunity it gives officers, to dare to read, think, speak and write.

Ministry of Defence,  
Directorate of Engineering (P&D),  
Kashmir House, New Delhi.  
19th Jan. 65.

BRIGADIER N. B. GRANT

### II

#### ACT OR PERISH

There is no denying that we must prepare against the Chinese menace. However, in his article, Major K. Bhahma Singh has missed out a few important things which must be achieved before any Nation or Army can beat the aggressor.

Firstly, the civil administration and the local population must get it out of their heads that the Army in forward areas is a burden on them, come there only to deprive them of their land. The time of late 1962 or early 1963 is fast disappearing when the civil administration and the population were helpful and sympathetic towards the soldiers away from their homes.

It is also time that we look into ourselves to see how much of our time we really utilize in training for war. A unit commander spends most of his time answering outstanding audit objections and giving explanations for late reports and returns. And the unit is often busy doing things without specified funds or labour.

Last but not the least, is it not time for us to revise our standards of values? Honesty is so essential to the mutual trust which we must have in each other if we are to meet a real test as a military body. As Colonel Greybeard says in Combat Forces Journal, "In time of peace, (or even in war, if winning) a military man provided with the good pay, good food, snappy pin-up girls and ice-cold coke, may not give too much thought as to whether he can trust those above, below and alongside him; but if we are to meet severe tests, and we are already doing so, mutual trust is utterly essential".

Without mutual trust and integrity there can be no honour and without honour, there can be no willingness to fight.

22 Field Company  
C/o 56 APO  
Oct. 64.

Major SCN JATAR

### III

#### ONE POINT—TWO SIDES

The article 'One Point—Two Sides' published in March issue is interesting as it discusses a problem which most of us deployed on borders, at present physically encounter it. The article discusses 'the so far known' Chinese tactics and its effect on our organisations of defensive layouts.

Concentration of force and its use by the opponent in spite of his slogan of 'ten to one' should only be viewed in the light very correctly focussed by the writer, 'if a position cannot take large number of troops to defend it, it cannot take a large number deployed to attack it either'. If that is so then the problems of defender for meeting the new tactics of concentration and infiltration are not new. A little variation in execution will meet the change and no serious changes or amendments area envisaged.

Mountains eat troops and there is ever an urge to hold too much with too little. Between these two extremes, there are, and would be, situations when divisions and even brigades are broken in order to cover a far bigger sector both in frontage and depth than normally preached. From this, logically follows that any defended localities, areas and sectors should be prepared to accept normal infiltration and penetration, more so in present terrain and with the opponents present tactics 'in waves'. In fact commanders perforce now will have to risk bigger gaps than normal between defended areas and sectors than before. If this is agreed to, then more often the

killing ground would fall within and inside a sector as before; and penetration should be accepted in every case and catered for. The question of seeking amendments to the definition of killing ground and conception of inevitable penetration do not arise.

What is required 'to fight it effectively' are two main requisites—

- (a) 'stout defence' as writer has mentioned by those responsible to hold ground;
- (b) and greater volume of fire power specially artillery now and air power in future.

MAJ R.S. RAWAT

#### IV

#### THE PATTERN OF MILITARY LEADERSHIP IN THE TECHNOLOGICAL AGE

Brigadier Grant over-simplifies the problem of military leadership in his article under the above heading in the July-September 1964 issue of the Journal. He draws a distinction between an unspecialised officer of little or no technical ability, qualifications or experience—a "salt horse" in old Navy parlance—and a technical officer specialised in engineering or similar technical trade. In doing so, he is some 15-20 years behind times in his thinking, at least as far as the Navy is concerned, and I am fairly certain so far as the other two Services are concerned as well.

It is quite true there was a breed of "Seamen" officers in the Navy of the decade before the last who were specialists in nothing except the art of driving ships. But in the nuclear age of the sixties, practically everyone, be a seamen or engineer, is a specialist and as such is much a technician as the next man.

The so-called non-technical officer in the modern age could be a specialist in inertial navigation if he is a navigator, or in nuclear reactors and propulsion, if he is a nuclear submariner, or in wireless communications and electronic warfare if he is a communicator, or in oceanography and sonar propagation in water if he is an anti-submarine officer, or in gunnery fire control if he is a gunnery officer and so on. The distinction between the technical and non-technical officers therefore has become non-existent.

In addition to being a technician, the seamen officer by virtue of his background, training and experience is qualified to handle a warship at sea in action and in peace time.

This lack of distinction between "technical" and "non-technical" officers may not be so valid in the case of regimental officers of the Army or general duties officers of the Air Force and other "technical" officers but it is nevertheless true. Who then is more qualified to command?

This fact does not, in any way detract from the worth and efficiency of the "technical" officers some of whom may well be eminently successful in command. But when practically every officer is specialised in some subject or other pertaining to warfare, the persons best qualified and suitable for command are those with the necessary background and experience.

K.S. SUBRAMANIAN, I.N.  
LIEUT. COMMANDER

Tactical School, Naval Base,  
Cochin-4, 27th Jan., 1965.

## SECRETARY'S NOTES

### NEW MEMBERS

From 1st October to 31st December 1964 the following members joined the Institution:—

ANAND, Major J.C.	LUTER, Lt Col. T.N. Engineers (Life)
ANAND, Major P.S., EME	MADHAWA SHYAM, Captain (Life).
ARORA, Captain V.K., Signals.	MEHTA, Major A.J., The Jat Regiment
BAKSHI, Major R.N., The Assam Rifles.	MOHINDER SINGH, Captain, AOC.
BAWA, Major A.S., Signals.	MOHINDER SINGH SOHI, Captain, AOC.
BHATTACHARYYA, Captain C. Artillery.	NARULA, Major S.P., Engineers.
BERAR, Major A.S., EME.	ONKAR SINGH, Major.
BHADHADE, Capt. A.M.	OHLAN, Lt, D.C.
BHANDARI, Captain K.K., AOC.	PAUL CHAUDHURI, Major S.K., Signals.
BHARDWAJ, Major P.C., EME.	PAWAR, Major M.S., The Dogra Regiment.
CHADHA, Captain Y.P., ASC (Life)	PRATAP, Major Y., Signals (Life).
CHAWLA, Captain G.K., Signals (Life).	PURI, Major I.J., Engineers.
CHANDRA SHEKHAR, Captain.	RAGHAVAN, Major R.V., Engineers.
CHITTAR PAL SINGH, 2/Lt. The Rajput Regiment.	RAWAT, Major S.C.
CHANDHURI, Captain S.K., 2nd Lancers.	SANDHU, Major B.S.
CHUGH, Lt-Col. O.P.	SACHDEVA, Lt. Commander C.L., IN.
COMMISSARIAT, Lt. Col., The Assam Rifles (Life).	SAWHNEY, Captain M.S.
DAMB, Captain P.C., Engineers.	SETH, Major BM, EME.
DATT, Major J.R.	SETHI, Major R.N., The Mahar Regiment.
GOEL, Captain J.N.	SHEKHAWAT, Captain C.S., Signals.
GULATI, Major S.P., Artillery (Life).	SIWACH, Major G.R.S., The Punjab Regiment.
INDER JIT SINGH, Major, Signals.	TALWAR, Captain J., Engineers (Life)
JAGAN NATH, Captain, AOC.	THAPA, Major M.S., The Garhwal Rifles.
KAILASH NATH, Captain.	TRILOK SINGH, Major Artillery.
KATHURIA, 2/Lt. D.C., ASC.	VASISHTA, Major I.D., The Mahar Regiment.
KRISHNA MURTHI, Major M.K., EME.	VINOD KRISHNA, Captain, Signals.
KUMAR, Major M.	VERMA, Sqn. Ldr, B.L., IAF.
LAL, Captain J.M., AOC.	Vij, Major R.K., EME.
LOHTIA, Captain R.D.	YADAV, Major M.L., Engineers.
LAMBA, Captain, MBS.	

Eight officers' messes and institutions were enrolled as subscribing members during this period.



# PRINCIPAL ADDITIONS TO THE LIBRARY

*October-December 1964*

TITLE	AUTHOR	YEAR
<b>BIOGRAPHY AND MEMOIRS</b>		
All Sir Garnet: A life of Lord Wolsely	J. H. Lehman ...	1964
An Autobiography	Jawaharlal Nehru ...	1964
Edwin Montagu: Memoirs and account of his visit to India	S. D. Waley ...	1964
Sir Firojeshah Mehta	Homi Mody ...	1964
*Irascible Genius	M. Moseley ...	1964
*Lonely Sea and the Sky	F. Chichaster ...	1964
*Nice to have You Aboard	H. Harold ...	1964
*The Restless Sky	C. E. Kay ...	1964
<b>WAR AND PEACE</b>		
Amphibious Operations	A. Whitehouse ...	1963
Common Defence	S. P. Huntington ...	1961
Blunted Sword	D. Divine ...	1964
*The Arms Debate	R. Levine ...	1963
*Spectrum of Strategy	E.J. Kingston-McCloughry ...	1964
*Defence in a Changing World	J. L. Moulton ...	1964
<b>WORLD WAR I</b>		
*The Somme	A.H. Farrar-Hockley ...	1964
*Return to Salonika	C. Packer ...	1964
*Western Front 1914-1918	J. Terraine ...	1964
<b>WORLD WAR II</b>		
A Week Before Pearl Harbour	A. A. Hoehling ...	1963
Carve Her Name With Pride	R. J. Minney ...	1964
*Norway 1940	B. Ash ...	1964
July Plot: An attempt on Hitler's Life.	R. Mannell and others ...	1964
*The Destruction of the Dresden	D. Irving ...	1963

---

\*Reviewed in the Journal

*On Their Shoulders	C. N. Barclay	...	...	1964
*Generals at War	F. DeGuingand	...	...	1964
*March on Delhi	A. J. Barker	...	...	1963
*The Battle of Mediterranean	D. Macintyre	...	...	1964
History of the Second World War: United Kingdom Civil Series				
1. Works and Building	C. M. Koham	...	...	1952
2. Studies in Social Services	S. Ferguson	...	...	1954
3. Coal	W. H. B. Court	...	...	1951
4. Agriculture	K. A. H. Murray	...	...	1955
5. Financial Policy 1939-45	R. S. Sayers	...	...	1956
6. Inland Transportation	C. I. Savage	...	...	1957
7. Factory and Plants	W. Hornby	...	...	1958
8. Economic Blockade. Vol. 1-2	W. N. Medlicot	...	...	1952
9. Food. 3 Vols.	R. J. Hammond	...	...	...
10. Civil Industry and Trade	E. L. Hargreaves	...	...	1952
11. British War Production	M. M. Postan	...	...	1952
12. Civil Defence	T. H. O' Brien	...	...	1955
13. Contracts and Finance	W. Ashworth	...	...	1953
14. The Control of Raw Material	J. Hurstfield	...	...	1953
15. North American Supply	D. M. Hall	...	...	1955
16. Study of Overseas Supply	D. H. Hall	...	...	1956
*Powers of Small State	A. B. Fox	...	...	1959

## AIR

Royal Airforce 1939-1945	D. Richard	...	...	1953
*The Early Birds	G. Moore	...	...	1964
*Design for Flights	H. Conradis	...	...	1960

## PSYCHOLOGICAL WARFARE

Communist Propaganda Technique	J. Clews	...	...	1964
Defense Psychology	F. Goldard. <i>Ed.</i>	...	...	1962
Coercive Persuasion	E. H. Schein	...	...	1963

## INTERNATIONAL AFFAIRS

Survey of International Affairs, 1955-58.	G. Barraclough	...	...	1962
--	----------------	-----	-----	------

---

\*Reviewed in the Journal

An Atlas of World Affairs	A. Boyd	...	...	1964
International Stability	D. J. Hekhnis	...	...	1963
*New Dimension in Foreign Policy	M. Bellof	...	...	1961
*Communism and Colonialism	W. Kolutz	...	...	1964
The Sino-Soviet Rift	W. E. Griffith	...	...	1964

## ASIA

Betrayal of Tibet	J. P. Mitter	...	...	1964
India, Pakistan and West	P. Spear	...	...	1961
Inner Asian Frontiers of China	O. Lattimore	...	...	1962
A. History of Asia. Vol. I	W. Bingham and others	...	...	1964

## INDIA

Britain and India: Requiem for Empire	J. Zinkin	...	...	1964
India under Minto and Morley	M. N. Das	...	...	1964
Six Minutes to Sunset	A. Swinson	...	...	1964
Battles of Indian Mutiny	M. Edwardes	...	...	1963

## MISCELLANEOUS

Spy who came from Cold	J. Lecarre	...	...	1964
*Dictionary of United States Military terms		...	...	1964

---

\*Reviewed in the Journal

*With compliments*

*l*

*r*

*c*

*m*

**CANTEEN STORES DEPARTMENT (INDIA)**  
**“ADELPHI”**

**119, QUEENS ROAD, BOMBAY-1**

**CONSTITUTED TO SERVE THE ARMY, THE NAVY AND  
THE AIR FORCE**





IN A LARGE VARIETY  
OF DESIGNS, QUALITIES  
& PRICES, FROM FLEX  
DEALERS EVERYWHERE

A PRODUCT OF THE BRITISH INDIA CORPORATION LTD.  
**NORTH WEST TANNERY BRANCH, KANPUR, U.P.**

C. 144

Printed at United India Press, New Delhi, and Published by Lieut-Colonel  
Pyara Lal, for the United Service Institution of India, Kashmir House  
King George's Avenue, New Delhi-11.

# ON THE BEAM

Laser rangefinding was one of the first uses suggested when the laser principle was discovered: rangefinders will be among the earliest operational applications. Advantages include independence of good light conditions, high accuracy at longer ranges and the ability to operate undetected.

Barr & Stroud invented the modern optical rangefinder and are themselves in the forefront of British laser development. Now they offer the Colidar laser rangefinder, having come to an agreement with the Hughes Aircraft Company of California, who discovered the laser principle.

**BARR & STROUD LTD**

Anniesland, Glasgow, W. 3  
London Office : 1 Pall Mall East, S.W.1

\* Telephone : Jordanhill 9601  
• Telephone : Whitehall 1541